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ABSTRACT

The effects of different variables on second language acquisition, specifically the effect of parental influence, were tested on the Gardner (1979) model of second language acquisition. Data were obtained from 68 anglophone students in grades 7-10 enrolled in a French immersion program and also from their parents. A factor analysis of parental data indicated that parental influence can be divided into passive and active components, with the passive component being the early development of language learning attitudes, and the active component being the continued effort to influence attitudes. The data also supported an expanded version of the Gardner (1979) model of second language acquisition. Significant relationships observed include: language aptitude and linguistic outcomes, motivation and nonlinguistic outcome, student attitudes and motivation, active parental influence and student confidence with French, and socioeconomic status and active parental influence. Questionnaires and data analyses are appended. (RW)

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S.P. Colletta, R. Clément and H.P. Edwards

Community and Parental Influence: Effects on Student Motivation and French Second Language Proficiency

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Table of Contents

Chapter		Page
	Acknowledgements	i
	List of Tables	ii
	List of Figures	iii
	Abstract	iv
I	Introduction	1
	Background to the Problem	1
	Cognitive Variables	2
	Social Psychological Perspective	3
	Situational Anxiety	7
	Gardner's Model of Second Language Acquisition	8
	Self-Confidence with the Second Language	16
	Parental Influence	18
	Socio-economic Status	21
	Expanded Model of Second Language Acquisition	22
	Summary and Conclusions	25
II	GENERAL METHODOLOGY	27
	Subjects	27
	Materials	29
	1. Questionnaires	29

Table of Contents (continued)

Chapter		Page
	Materials (continued)	
	2. I.Q.	35
	3. Language Aptitude	38
	4. French Achievement Tests	41
	Procedure	43
	Statistical Analyses	45
III	PARENT SURVEY: RESULTS AND DISCUSSION	57
	Subjects	57
	Results and Discussion	58
	Conclusion	63
IV	SECOND LANGUAGE LEARNING MODELS: RESULTS AND DISCUSSION	65
	Results and Discussion	65
	1. Comparison of the Sub-sample of Students with the Balance of the Total Population.	65
	2. Self-Confidence with French	66
	3. Comparison of the Second Language Learning Models	68
	4. Model Refining	73
V	CONCLUSION	82

Table of Contents (continued)

Chapter		Page
REFERENCES		93
APPENDICES		
A.	Rotated Factor Matrices of the Parent Questionnaire	104
B.	Student Questionnaire	107
C.	Parent Questionnaire	131
D.	Test Administration Schedule	144
E.	Letter to Parents	145
F.	ANOVA Summary Table for I.Q. by SES	147
G.	Specification of Matrices for the LISREL IV Analyses	148
H.	Correlation Matrices for the Factor Analyses of the Parent Questionnaire	158
I.	Correlation Matrix for the LISREL IV Analyses	162
J.	Latent Constructs and Their Corresponding Measured Variables	167

Table of Contents (continued)

Chapter		Page
APPENDICES (continued)		
K.	First Order Derivatives	170
L.	Standardized Solutions	182
M.	t-Values	194

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List of Tables

Table Number		Page
2.1	Student Questionnaire	31
2.2	Parent Questionnaire	36
2.3	Latent Constructs and Their Corresponding Measured Variables	54
3.1	Cronbach's coefficient alpha reliability coefficients for the scales of the parent questionnaire	60
3.2	Varimax rotated factor matrix of the parent questionnaire	61
4.1	Comparison of student variables between the sub-sample of students included in the analyses of the balance of the population	67

List of Figures

Figure Number		Page
1.1	Schematic representation of the Gardner Model	9
1.2	Schematic representation of the Expanded Model	24
2.1	Schematic representation of the LISREL IV model of the Gardner Model	52
2.2	Schematic representation of the LISREL IV model of the Expanded Model	53
4.1	LISREL IV analysis of the Gardner Model	70
4.2	LISREL IV analysis of the Expanded Model	71
4.3	LISREL IV analysis of Modification 1 of the Expanded Model	76
4.4	LISREL IV analysis of Modification 2 of the Expanded Model	78
4.5	LISREL IV analysis of Modification 3 of the Expanded Model	79

Abstract

Considerable research has been concerned with the role that different variables play in the process of acquiring a second language. Based on these studies, Gardner (1979) proposed a model of second language acquisition (Gardner Model). While this model incorporates variables that had been most supported by the research, there are suggestions in the literature, but little empirical data, to suggest that others may be important in the learning process: specifically, parental influence, socio-economic status, and self-confidence with French. This study was conducted to test the Gardner Model and the model generated by expanding it to include these variables (Expanded Model) using LISREL IV, a statistical procedure appropriate to linear models. With respect to parental influence, this study also examined Gardner's (1968) hypothesized breakdown of this variable into passive and active components.

Data were obtained from 68 grade 7, 8, 9, and 10 anglophone students enrolled in a French immersion program in Ottawa. Data were also obtained from their parents. Results of a factor analysis of the parents' data suggested that parental influence can be thought

of in terms of passive and active components. Results of the LISREL IV analyses provided partial support for both the Gardner and Expanded Models. Further, the Expanded Model provided a better fit to the data.

While the internal dynamics of the model are unclear, the findings support a number of the hypothesized causal relationships among the variables. Specifically, the significant relationships observed included: Language Aptitude and Linguistic Outcomes; Motivation and Non-Linguistic Outcome; Student Attitudes and Motivation; Active Parental Influence and Student Self-Confidence with French; and SES and Active Parental Influence. Other hypothesized causal relationships were non-significant, however, including Self-Confidence and either Outcome, and Motivation and Linguistic Outcome. These as well as results of statistical refining of the Expanded Model are discussed.

Chapter I

INTRODUCTION

Background to the Problem

There has always been considerable interest in the question of how people come to acquire languages other than their mother tongue. This desire to understand second language acquisition has led to a large body of research into various aspects believed to be important in the learning process. While many of the early studies examined the importance of cognitive variables of the language student, more recently, a considerable amount of research has been directed at investigating the influence of student affective variables with respect to both their influence on second language acquisition and the interaction among these variables. As well, this line of inquiry has led to the examination of variables within the language student's environment that might foster and/or influence these student variables, and has resulted in a proposed model of the second language acquisition process. This chapter will review the second language learning literature with respect to cognitive, affective and societal factors, examine the current model of the second language learning

process and propose a revision of this model.

Cognitive Variables

As stated above, the initial focus of research revolved around the relationship between individual difference variables and the acquisition of a second language. Intelligence was one of the first variables investigated but was found to be a poor predictor of success in second language programs (Carroll, 1965). Since intelligence alone could not predict successful second language learning, it was hypothesized that learning languages involves a special ability or aptitude that is not possessed by all individuals equally. Language aptitude has been defined as "... a fairly specialized talent (or group of talents) relatively independent of those traits ordinarily included under "intelligence"" (Carroll, 1965, p. 89) which facilitate the acquisition of a foreign language. While many early tests of linguistic aptitude correlated highly with tests of intelligence, current tests identify a set of abilities which have been found to be related to learning a second language and which are relatively independent of intelligence.

Much of the research into the role of language aptitude

has demonstrated it to be an important factor in second language learning (Carroll, 1965, 1967; Anisfeld and Lambert, 1961; Gardner and Lambert, 1972; Krashen, 1981). The relationship between language aptitude and second language learning, however, has not been consistent (Carroll, 1965; Gardner and Lambert, 1972). It therefore appeared that language aptitude alone could not consistently account for success or failure in second language programs. These results, in part, have directed investigators to explore the role of variables other than cognitive ones in the learning process.

Social-Psychological Perspective

Of the many factors that have been investigated, attitudinal and motivational variables have received the most attention, and a considerable amount of research has demonstrated a significant relationship between these and second language achievement (Jordan, 1941; Jones, 1950; Reinert, 1970; Gardner and Lambert, 1972; Burstall, 1975).

Based on their research, Gardner and Lambert (1972) proposed a conceptualization of the second language learning process which, while accepting the role of variables such as language aptitude, emphasized

social psychological factors such as attitudes and motivation. They have argued that learning a second language is more than merely acquiring a new skill, since it also involves acquiring and incorporating the various cultural aspects that any language reflects. As a result, they have proposed that second language acquisition is more appropriately understood within a social psychological framework (Gardner and Lambert, 1972; Gardner, 1979).

Consistent with this social psychological viewpoint, what has been observed is that students who hold favourable attitudes towards various aspects of language study (e.g. attitudes towards the second language culture and the learning situation), and who are motivated to do well in their second language study, are most likely to succeed (Gardner and Lambert, 1972; Gardner, 1979; Gardner, Glicksman and Smythe, 1978; Gardner, Smythe, Clément and Glicksman 1976; Gardner and Smythe, 1976; Clément, Major, Gardner and Smythe, 1977; Krashen, 1981).

Not only have attitudinal and motivational factors generally been found to be significantly related to linguistic aspects of second language study, but also to non-linguistic aspects such as continuing in second

language courses (Bartley, 1969, 1970; Gardner and Smythe, 1975; Burstall, 1975), inter-ethnic contact (Gardner, Kirby, Smythe, Dumas, Zelman, and Bramwell, 1972; Clément, Gardner, and Smythe, 1977a; Taylor, and Simard, 1975), and behaviour in the second language classroom (McEwen, 1976,; Naiman, Fröhlich and Stern, 1975).

In many of the studies of attitudinal-motivational factors in second language learning, a relationship between attitudinal variables and measures of motivation was observed, suggesting that high levels of motivation in second language study were related to the attitudinal characteristics of the student (Gardner, Smythe, Clément and Glicksman, 1976). This relationship had earlier led Gardner (1966) to propose that successful second language acquisition was dependent upon what he termed an integrative motive. This integrative motive reflected the language student having a high level of drive to learn the language of a foreign language community towards which the student held favourable attitudes, in order to be better able to interact with and to understand the people of the second language culture (Gardner, et.al., 1976).

What was observed with respect to the relationship between attitudes and motivation was that motivation to study a foreign language had a number of attitudinal correlates (Gardner and Smythe, 1976). For example, along with being motivated, successful language students were also found to have favourable attitudes toward learning foreign languages in general, toward various aspects of the learning situation, and to have perceived considerable parental encouragement to succeed in their language study. These results led Gardner and Smythe (1976) to conclude that motivation to acquire a second language had a considerable attitudinal foundation.

Further research on the relationship between attitudes and motivation with second language proficiency provided evidence which suggested that the attitudinal component did not directly influence second language acquisition, but did so indirectly through providing supports for motivation (Gardner and Smythe, 1976; Gardner, 1979). In studies of anglophones studying French in monolingual and bilingual settings (Gardner, 1979; Gardner and Smythe, 1976), and francophones studying English in a bilingual setting (Clément, Gardner and Smythe, 1977b) significant correlations

were obtained between each attitude measure and motivation as well as between the attitudes, motivation and the second language criteria. Of the correlations with the achievement criteria, those involving motivation were the largest, indicating that motivation is the most potent predictor. Further, using semi-partial correlation, for each of the attitudes with the effects of motivation removed, but for a few exceptions, no significant relationship with the achievement measures was obtained. On the other hand, the relationship between motivation and achievement, again with a few exceptions, remained significant even with the effects of each of the attitude variables removed from motivation (Gardner, 1979; Gardner and Smythe, 1976). These results appeared to indicate that rather than affecting second language achievement directly, the role played by the student's attitudes was primarily that of providing support for motivation.

Situational Anxiety

Not only have studies provided support for the role of attitudinal and motivational factors, but they have also demonstrated a significant negative relationship between situational anxiety (a measure of the amount of anxiety

experienced by the student during second language class) and second language achievement (Gardner, 1979; Gardner and Smythe, 1976). This relationship with second language achievement remained significant even when the effects of motivation were removed (Gardner, 1979), indicating that this variable's contribution to second language achievement is independent of motivation. Further, while motivation was the best predictor of all measures of second language achievement for students in a unilingual setting, situational anxiety was the best predictor of success in the bilingual setting with respect to three of the five second language achievement criteria employed in that study.

Gardner's Model of Second Language Acquisition

In an attempt to integrate the findings of the past research, Gardner (1979) presented a linear model of second language learning which incorporates all factors that have been found to have a determining influence on the learning process (see also Gardner and Smythe, 1975a). From this point on, this model will be referred to as the Gardner Model. According to this model (see Figure 1.1), the variables involved in the second language learning process can be broken down into four categories: Social

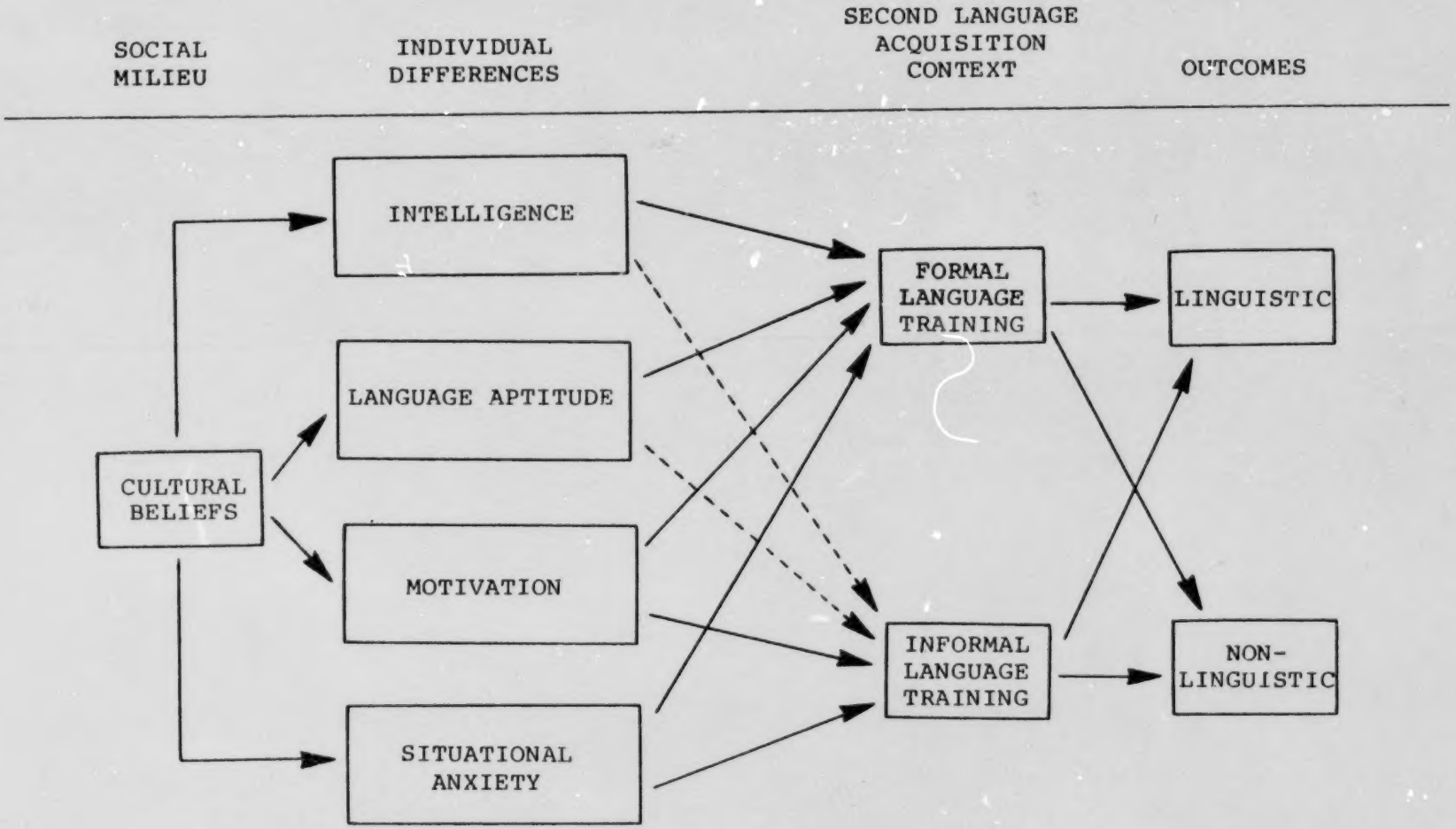

FIGURE 1.1 Schematic representation of the Gardner Model (from Gardner, 1979)

milieu, individual differences, second language acquisition contexts, and outcomes.

Beginning with the end product, second language achievement is comprised of linguistic and non-linguistic outcomes. Linguistic outcomes refer to the more formal and structural aspects of the language such as knowledge of the second language (for example, vocabulary and grammar), and specific language skills (for example, reading, writing, and speaking). Non-linguistic outcomes refer to aspects related more to the second language culture, such as acquiring increased knowledge about, and more favourable attitudes towards the second language culture and its people.

The achievement of these outcomes can occur either through formal language training or through informal language experience. While formal language training stresses the acquisition of language knowledge and skills, information concerning cultural aspects of the second language community are also transmitted, thereby simultaneously influencing non-linguistic outcomes. Informal language experience, that is, interaction with members of the second language community, also leads to the achievement of both types of outcomes as the student not only learns about the second language culture, but has the opportunity to use and increase his second language skills.

How much the student will acquire in either context is influenced by the individual difference variables of intelligence, language aptitude, motivation, and situational anxiety. Intelligence refers to the student's general ability to learn. It should be recalled that while a minimum level of intelligence is necessary for second language learning, its relationship to second language acquisition has not been found to be a strong one (Carroll, 1967). Language aptitude, on the other hand, refers specifically to an individual's ability to learn languages. The relationship between language aptitude and second language proficiency has been well documented, particularly with respect to formal, academic aspects of a second language (see Carroll, 1965; Gardner and Lambert, 1972). As indicated by the solid arrows connecting Intelligence and Language Aptitude to Formal Language Training, research on the role of these two variables has been carried out only within Formal Language Training programs. While it is reasonable to expect that these two variables also play a role in informal learning contexts, this has not been researched and the influence in such contexts is therefore shown by broken lines connecting them to Informal Language Experience in the Gardner Model.

In the model, motivation refers to characteristics such as a student's desire to learn the second language and the effort he/she expends towards the achievement of that goal. Although not specified in this schematic representation, it should be noted that this variable is a motivational-attitudinal comples (see Gardner and Smythe, 1975a), with attitudes seen as providing support for motivation in second language study (Gardner, 1979; Gardner and Smythe, 1976). The role played by motivation in second language acquisition has been demonstrated in both formal and informal learning contexts (Clément, Gardner and Smythe, 1977a; Glicksman, Gardner and Smythe, 1976).

The last individual difference variable included in this model, situational anxiety, refers to the amount of anxiety felt by the language student in specific situations involving the use of the second language. As with motivation, situational anxiety has also been shown to play a role in second language acquisition in both formal and informal learning contexts.

Finally, Gardner proposes that characteristics present within the social milieu can influence the role played by the individual difference variables in the

second language acquisition process. He argues that the cultural mileau can influence the process in at least two ways. First, factors in the cultural milieu to a large extent help to shape an individual's attitudes. Second, within a community there exist characteristics which can promote or interfere with an individual's acquisition of a second language, such as the linguistic nature of the community, the political climate of the community vis-a-vis bilingualism, social class, and the language acquisition context (Gardner, 1975). Thus, for example, if the prevailing attitudes of a community towards learning a second language were favourable, then these could enhance the role of the student's attitudinal-motivational complex in second language acquisition. On the other hand, while the student may have favourable attitudes towards second language study, it has been found (Gardner, 1976) that the attitudes of the larger community around the student may reflect inconsistencies that might serve to attenuate the influence of the student's attitudes.

Little attention, however, has been directed at investigating the influence of the social milieu. In a preliminary investigation, Gardner (1979) examined the

second language learning process in terms of the linguistic nature of the community. He contrasted the results of anglophone students studying French in unilingual versus bilingual settings. With respect to motivation, it was found, that in both settings, a significant relationship existed between it and second language achievement. Further, as might be predicted from earlier research (Gardner and Smythe, 1976; Gardner, 1979), the role of student's attitudes in the learning process was primarily that of providing support to motivation. However, that cultural milieu factors can influence second language acquisition was deduced from the fact that there were differences in the relative importance of the attitudes which associated with motivation in both settings. For example, the correlation between Attitudes towards the Learning Situation and Motivation is less strong in the bilingual setting than in the unilingual setting (.48 vs. .62). The same is true for the relationship between Ethnocentrism and Motivation (-.02 vs. -.31). Further, Parental Encouragement was more highly correlated with Motivation in the bilingual setting (.51 vs. .21).

Further evidence of the importance of social milieu factors was obtained with regard to two other individual

difference variables examined in this study. Language aptitude provided a unique contribution to French achievement in both settings, but its importance was less pronounced in the bilingual setting where informal as well as formal opportunities for acquiring French existed (e.g. .40 vs. .25). Further, although situational anxiety (as measured by the French Classroom Anxiety scale) and motivation were the two most powerful predictors of success in both settings, motivation was the best predictor in the unilingual setting, while situational anxiety was the best predictor in the bilingual setting. Gardner suggests that this result can be understood by the fact that in a unilingual setting, where little or no opportunity to acquire French skills through interaction with members of the French community exists, success is logically related to the amount of effort expended by the student in formal French training. In a bilingual setting, where inter-linguistic contact is possible, and perhaps inevitable, informal learning experiences occur that would not necessarily be related to the student's motivational level. Further, in such a situation, anxiety is more likely to influence the extent to which the student engages in inter-linguistic contact.

It appears that the contribution made by Gardmer's (1979) model is three-fold. First, it brings into clear focus a well-organized formulation of the social factors involved in second language proficiency. Second, it highlights the areas in which substantial research evidence supports the hypothesized process. And third, it provides a schema which helps direct future investigations. On the last point, examination of Figure 1.1 shows a number of variables contributing to second language achievement. Although some research has been conducted with respect to these variables, the major focus has been on the relationship between the attitudinal-motivational complex and achievement in the second language. The model suggests the importance of other variables and the need to examine them further.

Self-Confidence with the Second Language

It has been consistently found that situational anxiety makes a significant contribution to second language achievement, relatively independent from motivation. It has been seen to be a potent predictor of second language achievement for anglophones studying French in unilingual and bilingual settings (Gardner, 1979; Gardner and Smythe, 1976) and for francophone

students studying English in a bilingual setting (Gardner and Smythe, 1976). Initially, however, it was considered that, like the attitude factors, situational anxiety was related to achievement through a relationship with motivation. Examination of the research (Gardner, 1979; Gardner and Smythe, 1976) shows that only after the relationship between situational anxiety and second language achievement consistently remained significant (once the effects of motivation were partialled out) did situational anxiety begin to be treated as a separate individual difference variable.

Thus far, anxiety concerning second language learning has been measured largely with an index of the anxiety experienced in the second language classroom. However, in learning a second language there are other contexts beside the classroom situation in which anxiety can come into play, such as instances within one's community where the language student may use the second language. Also, the student's self-perceived competence in the second language would likely contribute, to some extent, to the degree of anxiety regarding second language use experienced by the student. Consequently, it would appear that it would be useful to expand the concept of

situational anxiety to include these possibilities. Clément (1978) suggests that self-confidence with the second language might be a more useful and encompassing concept since it includes more sources of anxiety and thereby provides a more complex index to be used in assessing the role of this individual difference variable in the learning process. Such an approach would be most useful for students learning a second language in a bilingual setting where formal and informal learning opportunities would be present.

Parental Influence

Another aspect of the model which may prove to be a fruitful area of investigation is that of social milieu. As Gardner (1979) points out, numerous factors are present within the environment of the language student that may influence the acquisition process. Specifically, within the immediate social milieu of the student, there has been little research on the role played by parental variables in second language acquisition. However, there is some evidence of a relationship between parental attitudes and student achievement in second language training (Feenstra, 1969; Gardner, 1972; Gardner and Lambert, 1972; Gardner, 1975). Feenstra (1969) obtained measures

of parental attitudes and found that there was a significant relationship between their attitudes and those of the children. Further, the children whose parents had an integrative orientation, held positive attitudes towards French Canadians, and encouraged them in their study of French, achieved greater proficiency in French. Gardner, (1972) in interviews with parents found parents' and children's attitudes to be similar, supporting the notion that children's attitudes are developed within the family. Gardner and Lambert (1972) reported that students rated their parents as having similar attitudes to themselves. It has also been found that students who perceived their parents as having positive attitudes towards the learning of a second language and who encouraged them, achieved greater second language proficiency (Gardner and Lambert, 1972; Gardner, 1975). Further evidence of the role played by the student's parents has been cited earlier with respect to the varying influence of the student's perception of parental encouragement in unilingual and bilingual settings (Gardner, 1979). It is possible then, that parental attitudes may influence the role played by the student's individual difference variables by either enhancing or inhibiting their effects on second

language learning.

In an earlier examination of the role of parental attitudes, Gardner (1968) proposed that the parental contribution to the learning process is composed of passive and active influences. By passive influence, Gardner refers to the developmental influence of parents' attitudes on those held by the student. This passive influence would be important because, as evidence has shown (Gardner and Smythe, 1976; Gardner, 1979), the attitudes that the student acquires and thus holds provide support for his level of motivation.

The active parental influence refers to the parents' direct encouragement of and involvement with the student's learning of a second language. While this aspect of parental influence may affect the student's motivation, it is suggested here that it may also provide insight into the origin and role of the student's self-confidence with the second language. The importance of active parental influence on self-confidence is suggested by earlier findings that situational anxiety is a significant predictor of achievement in a second language, and that the student's perception of parental encouragement, while important in both unilingual and bilingual settings,

assumes a greater importance in a bilingual setting (Gardner, 1979). It must be remembered that all aspects of self-confidence discussed here, refer to conditions where the student is anxious regarding his experience with the second language and his perceived competence in that language. It is possible that parents who actively encourage the student in the use of his second language may provide opportunities for contact with the second language culture, thereby reducing the level of anxiety surrounding various aspects of second language use.

Finally, it is likely that the extent to which parents will become actively involved in the student's language learning is affected by the attitudes he holds (i.e. the passive process). Based on the available evidence, inclusion of parental variables, particularly in terms of Gardner's (1968) concepts of active and passive roles, in the second language learning model seems likely to enhance our understanding of the process.

Socio-economic Status

As a final consideration, Gardner (1979) reported that social factors, specifically the linguistic character of the language student's community, do influence the role of students' individual difference

variables. As he pointed out, however, linguistic makeup is but one of the many social milieu factors that may be important for our understanding of second language acquisition. What may be of particular relevance to parental influences is socio-economic status (SES). SES might influence both the active and passive aspects of the parental role. Research has shown a relationship between SES and attitudes towards different cultures (Korman, 1974). This relationship may be important with respect to both the passive and active roles of parental influences in that it would determine the attitudes held by the students and the extent to which the parent becomes actively involved in the student's second language learning. Further, and particularly relevant to the active process, SES may exert its influence in that the extent to which parents can provide opportunities for their children to use the second language may be determined by the resources available to them.

Expanded Model of Second Language Acquisition

What is being proposed here is that the Gardner Model be expanded to include parental, socio-economic status and self-confidence variables, and that this would result in a model that more accurately represents the second

language acquisition process. This proposed model will be referred to as the Expanded Model from this point on and is presented in Figure 1.2.

Specifically, it is hypothesized that the students' individual difference variables will contribute positively to second language acquisition in the following manner: Intelligence and Language Aptitude will play a greater role in linguistic rather than non-linguistic outcomes. Motivation and Self-Confidence with the second language however will be related to both outcomes. Student attitudes are hypothesized to support motivation as has been shown in past research. Further, expanding Situational Anxiety to the concept of Self-Confidence will result in a greater positive relationship to the second language outcomes.

With respect to Social Milieu, it is hypothesized that parental influence can, in fact, be seen as two variables (Active and Passive) as proposed by Gardner (1968). Further the Passive Parental Influence variable will positively affect student Attitudes as well as the Active Parental Influence variable. The Active Parental Influence variable will positively affect

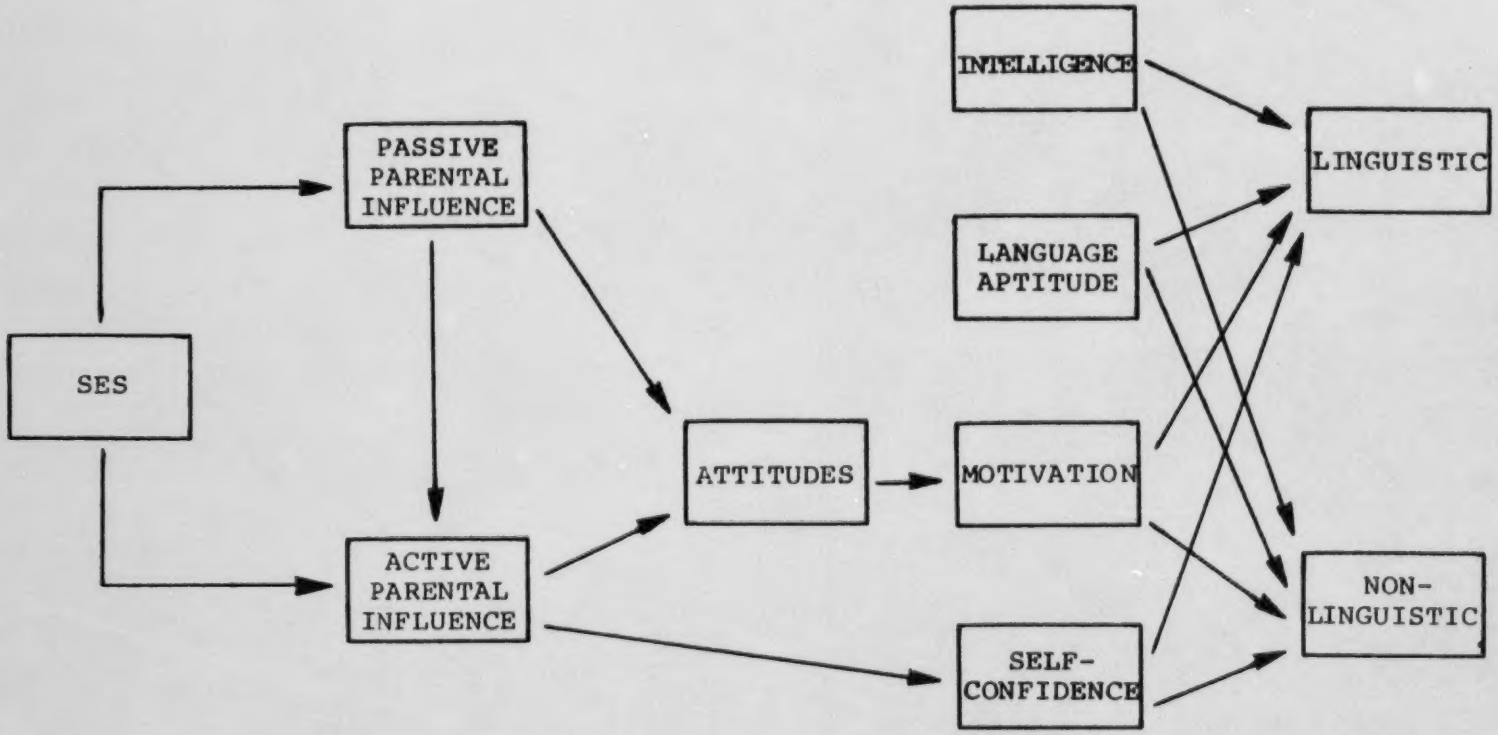

FIGURE 1.2 Schematic representation of the Expanded Model of second language acquisition

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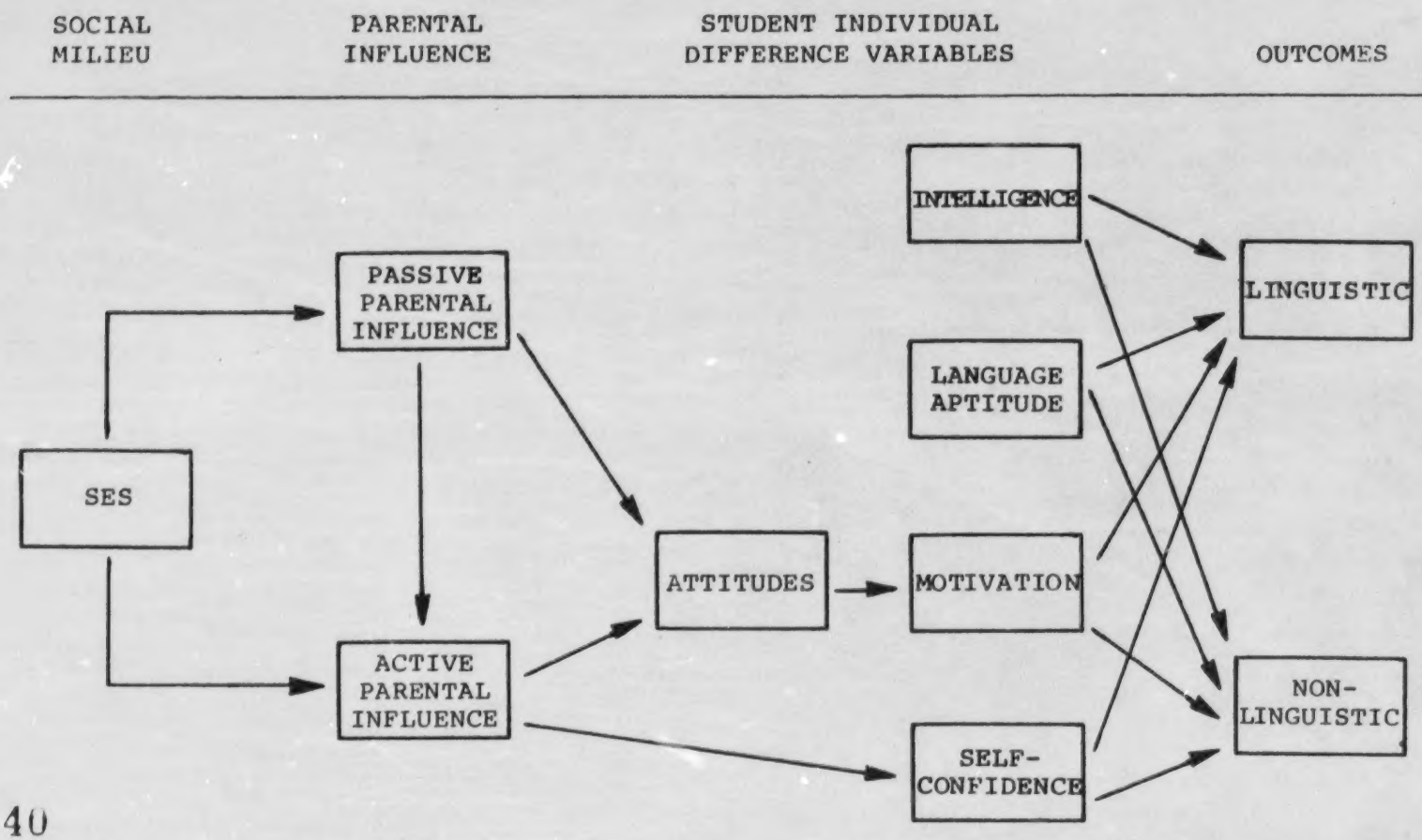

FIGURE 1.2 Schematic representation of the Expanded Model of second language acquisition

student Attitudes and Self-Confidence. Finally, it is hypothesized that SES will be positively related to both Active and Passive Parental Influence variables.

Summary and Conclusions

The preceeding sections have outlined the development of research in the area of second language acquisition which has led to the construction of the Gardner Model. The research has also suggested the possible importance to the learning process of social milieu factors such as socio-economic status, parental variables, and student self-confidence with the second language.

The following chapters will examine questions that have been raised by past research. This examination will focus on the following:

(a) the question of whether parental influence can be conceptualized as having passive and active components (Gardner, 1968);

(b) a test of the Gardner Model of second language learning using a statistical technique appropriate to linear models (Jöreskog and Sörbom, 1978);

(c) a test of the Expanded Model by the same statistical technique used in testing the Gardner Model; and,

(d) a comparison of the Gardner and Expanded Models.

Chapter II

GENERAL METHODOLOGY

This study examines two relatively distinct questions. One concerns an investigation of parental influence, and the other concerns testing two second language learning models. As the procedure for collecting the data for these two aspects shared many common elements, the following is a presentation of the general methodology. Specific methodological procedures are presented when each question is dealt with separately.

Subjects

All anglophone grade 7, 8, 9, and 10 students (54 male, 93 female; total = 147) enrolled in the Late French Immersion Program of the Ottawa Roman Catholic Separate School Board (ORCSSB) (academic year 1978-79) and their parents were employed in this study.

The Late French Immersion Program was one of the School Board's French Language study programs. It was offered in grades 7 through 10. In grades 7 and 8, approximately seventy per cent of the curriculum was taught in French. This included enriched second language instruction and four other subjects taught in

French. The rest of the curriculum was taught in English. In grades 9 and 10, the curriculum was taught half in French and half in English. Prior to enrollment in the Late French Immersion Program in grade six, students had received seventy-five minutes of French language instruction per day in grades 1 and 2, sixty minutes per day in grades 3 and 4, and thirty to forty-five minutes per day in grades 5 and 6.

All of the parents were requested by letter to participate in this study. The parent response rate, where at least one parent of each student returned a completed questionnaire, was 46 per cent. A total of 122 parents (41.5%) responded. There were 54 couple (both mother and father) responses, 10 mother only responses, and 4 father only responses. Separate factor analyses of the fathers' questionnaires, the mothers' questionnaires, and the mothers' and fathers' questionnaires combined, obtained similar results (Appendix A). Based on these findings, where both parents responded to the questionnaire, the average of the two sets of responses was used in the main analyses (see Chapter IV).

Only students who had at least one parent responding to their questionnaire were used in the analyses. This resulted in a sample size of 68 (24 male, 44 female). A comparison of this sample and the total student group is presented in a subsequent chapter.

Materials

1. Questionnaires

Attitudes and indices of motivation of both students and parents, and of self-confidence with French (students only) were measured by two questionnaires based on the Language Research Group National Test Battery: Form A (Gardner and Smythe, 1975b), one each for students and parents (see Appendices B and C). The Language Research Group National Test Battery: Form A has been used extensively in past research. It was standardized on grade 7 - 11 anglophone Canadian students and has been demonstrated to have reasonable reliability and validity (Gardner, Clément, Smythe and Smythe, 1979).

Both questionnaires consisted of some Likert-type scales and some multiple-choice scales. The questionnaires administered to the subjects were organized such that the scales were grouped according to response type. Within each type, the order of the items was randomly determined,

with the constraint that no two items from the same scale directly followed one another. The questionnaires required approximately one hour to complete.

(a) Student Questionnaire:

Because of time constraints, not all scales in the Gardner and Smythe (1975b) battery were included. Selection of scales for inclusion in this study was based on those having shown the highest correlation with French language achievement criteria in previous research (see Gardner and Smythe 1976). The scales which made up the student questionnaire are presented in Table 2.1.

Two scales not included in the Gardner and Smythe (1975b) battery were added. Research on achievement motivation (Raynor, 1974) has demonstrated that striving for a future goal is comprised of striving for sub-goals along the way. Desire to succeed at a task is, therefore, not only related to its perceived importance for attainment of the terminal future goal, but is also related to the more immediate sub-goals (Raynor, 1974). Since

Table 2.1

Student Questionnaire

Scale	Type	Number of Items	Content	Reference
Integrative Orientation	Likert	4	- assesses the degree to which the student thinks that learning French will enable him/her to better communicate with and become more knowledgeable about the French-Canadian community	Gardner and Smythe, 1975b
Ethnocentrism*	Likert	8	- assesses the degree to which the student perceives his/her own cultural group to be superior	Gardner and Smythe, 1975b
Instrumental Orientation	Likert	4	- assesses the degree to which the student thinks that learning French is important for pragmatic or utilitarian reasons such as future career success	Gardner and Smythe, 1975b
Future Orientation	Multiple Choice	2	- assesses the degree to which the student thinks that learning French is important to his/her continued success in school	after Raynor, 1974

Table 2.1 (continued)

Scale	Type	Number of Items	Content	Reference
Attitudes Towards French-Canadians	Likert	10	- assesses student's attitudes towards members of the French-Canadian community	Gardner and Smythe, 1975b
Interest in Foreign Languages	Likert	10	- assesses the student's general interest in acquiring second languages	Gardner and Smythe, 1975b
Parental Encouragement	Likert	9	- assesses the degree to which the student thinks that his/her parents actively encourage him/her to learn French	Gardner and Smythe, 1975b
Motivational Intensity	Multiple Choice	9	- assesses the amount of effort the student expends to learn French	Gardner and Smythe, 1975b
Desire to Learn French	Multiple Choice	10	- assesses the degree to which the student wants to learn French	Gardner and Smythe, 1975b
Attitudes Towards Learning French	Likert	10	- assesses the student's attitudes towards learning French	Gardner and Smythe, 1975b
French * Classroom Anxiety	Likert	5	- assesses the degree to which the student feels anxious or intimidated when speaking French in the classroom	Gardner and Smythe, 1975b

Table 2.1 (continued)

Scale	Type	Number of Items	Content	Reference
French Use Anxiety	Likert	8	- assesses the student's feelings of anxiety about using French in the community	Clément, 1978
Self-Ratings in French	Multiple Choice	4	- assesses the student's evaluation of his/her own French skills with respect to writing, understanding, reading and speaking	Gardner and Smythe, 1975b

*

Note: The scores for these scales are to be reversed. Consequently, with respect to the Ethnocentrism scale, a high score indicates low ethnocentrism and a low score indicates high ethnocentrism. Likewise, for the French Classroom Anxiety scale, a high score indicates low anxiety and a low score indicates high anxiety.

the Instrumental Orientation scale in the Gardner and Smythe (1975b) battery measures the perceived importance of acquiring French for more distant future goals, a scale assessing the perceived importance of acquiring French for a more immediate goal (Future Orientation Scale) was added.

The concept of self-confidence with French, as discussed earlier, relates not only to a student's ease of using French in the classroom and self-perceived abilities in the language, but also the ease with which the student uses French in real-life situations. Consequently a French Use Anxiety scale was added to the questionnaire in order to assess this component. The French Use Anxiety scale was translated from the English Use Anxiety Scale (Clément, 1978).

The student questionnaire also contained a general information sheet which requested information regarding language spoken in the home, languages that the student felt he spoke well, and if and where, in the last twelve

months the student had used French outside of the school situation.

(b) Parent Questionnaire:

The parent questionnaire scales were modelled after those used in the student questionnaire. Where appropriate, scales were modified such that the items reflected the parent's attitude as it related to his/her child. Identical questionnaires were administered to both parents. The scales which made up the parent questionnaire are presented in Table 2.2. Included with the parent questionnaire was a general information sheet which requested the following information: age, mother tongue, occupation, level of education, language spoken in the home, and languages that the parent felt he or she spoke well.

2. I.Q.

I.Q. was measured by the Canadian Lorge-Thorndike Intelligence Test (Lorge and Thorndike, 1957). This test was also being administered in connection with an on-going research project conducting an evaluation of the

Table 2.2

Parent Questionnaire

Scale	Type	Number of Items	Content	Reference
Integrative Orientation	Likert	4	- assesses the degree to which the parent thinks that learning French will enable his/her child to better communicate with and become more knowledgeable about the French-Canadian community	after Gardner and Smythe, 1975b
Ethnocentrism*	Likert	5	- assesses the degree to which the parent perceives his/her own cultural group to be superior	after Gardner and Smythe, 1975b
Instrumental Orientation	Likert	4	- assesses the degree to which, for his/her child, the parent thinks that learning French is important for pragmatic or utilitarian reasons such as future career success	after Gardner and Smythe, 1975b
Future Orientation	Multiple Choice	2	- assesses the degree to which the parent thinks that learning French is important for his/her child's continued success in school	after Raynor, 1974

*

Note: The scores for this scale are to be reversed, such that a high score indicates low ethnocentrism and a low score indicates high ethnocentrism.

Table 2.2 (continued)

Scale	Type	Number of Items	Content	Reference
Attitudes Towards French-Canadians	Likert	5	- assesses the parent's attitudes towards members of the French-Canadian community	after Gardner and Smythe, 1975b
Interest in Foreign Languages	Likert	5	- assesses the parent's general interest in acquiring second languages	after Gardner and Smythe, 1975b
Desire to Learn French	Multiple Choice	6	- assesses the degree to which the parent would like to be able to learn French	after Gardner and Smythe, 1975b
Parental Encouragement	Likert	5	- assesses the degree to which the parent thinks he/she encourages his/her child, in general ways, to study French	after Gardner and Smythe, 1975b
Motivational Intensity	Multiple Choice	5	- assesses the amount of effort the parent expends in helping his/her child to study French	after Gardner and Smythe, 1975b

second language programs within the school board. Since this study and the research project had some subjects in common, it was decided that the same instrument would be used.

The Canadian Lorge-Thorndike Intelligence Test is a scholastic aptitude test which measures intelligence as the ability to work with ideas and relationships among ideas. It consists of verbal and non-verbal sections. The non-verbal section was not administered in this study. The verbal section of the test measures the following: vocabulary, verbal classification, sentence completion, arithmetic reasoning and verbal analogies.

3. Language Aptitude

(a) Grade 9 and 10 students:

Linguistic aptitude of the grade 9 and 10 students was assessed by the Modern Language Aptitude Test (MLAT) (Carroll and Sapon, 1959). The MLAT provides an indicator of the probability of succeeding in learning a foreign language and can be administered in its complete form or in an abbreviated form (Short Form).

The test was standardized on high school

(grades 9 and up) and university students and norms are available for student and adult populations. Both the complete test and the Short Form have been used extensively in past research and in applied settings. Because of time constraints, the Short Form was used in the present study.

The Short Form of the MLAT is composed of three sub-tests: Spelling Clues, which measures the student's ability in sound-symbol association; Words in Sentences, which measures the student's sensitivity to grammatical structure; and Paired Associates, which measures the rote memory aspects of learning foreign languages.

(b) Grade 7 and 8 students:

Linguistic aptitude of the grade 7 and 8 students was assessed by a shortened version of the Elementary Modern Language Aptitude Test (EMLAT) (Carroll and Sapon, 1967). The shortened EMLAT consisted of two sub-tests: Hidden Words, which corresponds to the Spelling Clues sub-test of the MLAT, measures both knowledge

of English vocabulary and a sound-symbol association ability; and Matching Words, which corresponds to the Words in Sentences sub-test of the MLAT, measures sensivity to grammatical structure.

While the EMLAT was developed as a measure of foreign language aptitude in grades 3 to 6, Harper and Kieser (1977) examined the applicability of the test for grades 7 and 8. They reported that the EMLAT correlated significantly with achievement measures in French language study. Further, they examined the predictive efficiency of the EMLAT sub-tests and found that two of the sub-tests contributed most of the variance of the total test as a predictor of French achievement: Hidden Words and Matching Words. They concluded that in cases where test administration time was a consideration, the EMLAT might be shortened by using only these two sub-tests. While the Harper and Kieser (1977) study was a preliminary investigation, their results suggest that the EMLAT can be used with grade 7 and 8 students and that

a shortened version of the test can be used.

4. French Achievement Tests

In selecting French achievement tests to be used in this study, it was felt that those chosen should be tests that are widely used and accepted in second language learning research. Recent developments in language testing have provided tests which systematically evaluate numerous aspects of communicative competence (Canale and Swain, 1980). The tests used here, however, appeared to be the most reliable ones at the time the data were gathered, and they do tap some elements of communicative competence (see Wesche, 1981) along with formal language knowledge. The tests selected were the I.E.A. Reading Test, Population IVS, the O.I.S.E. Test de Compréhension Aurale, Niveau 7, and the O.I.S.E. Test de Mots à Trouver, Niveau 7.

(a) I.E.A. Reading Test, Population IVS. This test is one of a battery of French achievement tests developed by Carroll (1970), in collaboration with the International Educational Association. The test contains two parts. The first part consists of incomplete sentences, followed by alternative words which complete them. This part is meant to measure the student's comprehension

of simple sentences and words. The second part of the test is made up of short paragraphs in French, followed by questions which test the student's comprehension.

(b) O.I.S.E. Test de Compréhension Aurale, Niveau 7. This test was developed at the Ontario Institute for Studies in Education (O.I.S.E.) (1978), and is made up of taped items from radio announcements, weather forecasts, advertisements, etc., with each being followed by questions. It is designed to assess the student's ability to understand spoken French in real-life situations.

(c) O.I.S.E. Test de Mots à Trouver, Niveau 7. This test was developed at the Ontario Institute for Studies in Education (1978). It consists of a four paragraph short story, with the two middle paragraphs having some words missing in each sentence. The student is required to fill in the blanks with appropriate words, thereby demonstrating his/her understanding of the story, his/her French vocabulary, and his/her grasp of the grammatical structures involved.

Procedure

Permission to conduct this study was obtained from the Ottawa Roman Catholic Separate School Board. All student testing was conducted during class time. The student questionnaires were administered by two experienced testers who were employed as part of a research project that was conducting an evaluation of the second language program within the School Board. The French achievement tests were administered by an experienced, fully bilingual tester employed in the same research project. (For the schedule of administration of questionnaires and tests see Appendix D).

Parent questionnaires were sent home with the students. The parent questionnaire package included two questionnaires, one each for mother and father, a return envelope, and a letter outlining the general purpose of the research, assurances of confidentiality and requesting their participation (see Appendix E). The parents were also requested to complete their respective questionnaires separately, and return the sealed questionnaires, via their children, to the principal of the school their child attended, from where they were collected by the researcher.

SES estimates were obtained based on Statistics Canada census information. Using census data, Statistics Canada subdivides municipalities into different SES areas according to family income. This approach provides SES information about the kind of neighbourhood in which the student lives, and consequently about his total environment.

It is also possible to obtain specific individual SES estimates using the Blishen Scale (Blishen, 1973). This method of classification requires accurate occupational description, and many parents in this study failed to provide this information.

The addresses of the subjects were located on the SES map of the Ottawa area and SES estimates were obtained. As a check on the appropriateness of using the Statistics Canada information for determinening SES, the total sample was divided into low and high SES groups. SES levels three to seven were included in the low SES group; SES levels eleven to fifteen were included in the high SES group; SES levels eight to ten were not included in this analysis in order to clearly differentiate between the two groups. An analysis of variance with SES as the independent variable and I.Q. as the dependent variable showed that the I.Q. of the high SES group (Mean = 104.7) was significantly higher

than that of the low SES group (Mean = 97.88) ($F = 5.75$, $df = 1.85$, $p < .05$) (see analysis of variance summary table in Appendix F). While this analysis is but one test of convergent validity, these results add some support to the suitability of the Statistics Canada census information for determining SES estimates.

As a further check on the appropriateness of using Statistics Canada information for determining SES, education levels of the parents were correlated with SES estimates. This resulted in a correlation coefficient of .27 (degrees of freedom = 61, $p < .05$). This significant correlation also provides some support for the Statistics Canada data approach.

Statistical Analysis

(a) Analysis of Parent Data

The first analysis of the parent data was concerned with the reliability of the questionnaire scales. The reliability was examined using Cronbach's coefficient alpha procedure (Cronbach, 1951), a procedure which yields the average inter-item correlation of all items that constitute a scale. The parent data was then factor analyzed by means of the principal axes procedure which uses communalities estimated

after iteration (see Nie, Hull, Jenkins, Steinbrenner, and Bent, 1976, p. 480).

(b) Analyses of the Second Language Learning Models

Previous research has relied primarily on correlational techniques to examine the relationships among numerous variables and second language achievement criteria. Using this procedure, however, one is only able to demonstrate if relationships exist among a set of variables. While the Gardner and Expanded Models are, in large part, based on the consistent findings of significant relationships among the variables studied, what they proport to do is more than make statements about relationships. They, as do all models, present a theory of the causal linkages within the process they represent. Specifically, while any phenomenon can be represented by having all variables connected by paths, the researcher, based on past evidence and theoretical considerations, hypothesizes that the phenomenon can be adequately represented with certain paths deleted from the model. As such, testing these models requires a technique capable of examining the hypothesized causal relationships in order to determine whether the models are consistent with empirical data.

One technique appropriate for testing causal models is path analysis (Wright, 1921). Its usefulness in the present study is limited in that it is not well suited for complex, causal models with multiple measures of variables (Rogosa, 1979). In such a case, the results concerning the causal relationships may be distorted.

Cross-lagged panel analysis (Campbell, 1963; Kenny, 1979) is another technique appropriate for testing causal models. This technique requires that measures of the predictor and criterion variables be obtained on two separate occasions. This was not possible in the present study.

Analyses of the second language learning models in this study were conducted using the LISREL IV computer program (Jöreskog and Sörbom, 1978). This program provides estimates of the coefficients of the hypothesized paths, thereby yielding estimates of the causal effects. This analytic technique is particularly useful in that the variables that are included in the model can be observed (or measured) variables as well as hypothetical constructs (or latent variables)

which are not observed but are operationalized by the measured variables.

In a LISREL IV analysis, the model is composed of both a measurement model and a structural equation model. In factor analytic fashion, how the hypothetical constructs, or latents variables are measured in terms of the observed variables is specified by the measurement model. The measurement model also describes the measurement properties of the observed variables. The structural equation model, on the other hand, specifies the causal relationships among the latent variables and also describes the causal effects and the amount of unexplained variance.

LISREL IV, therefore, is a causal modeling technique which assumes a causal relationship among the set of latent variables. It provides estimates of the unknown coefficients in the set of linear structural equations and thereby of the causal effects in these equations.

Based on the hypothesized relationships in the model, LISREL IV constructs matrices which

can then be compared to the observed data matrices. (Specification and shape of the matrices in this study is presented in Appendix G). The test of the goodness of fit of the model yields a Chi Square statistic which reflects the comparison of the target matrix with the observed matrix. When the Chi Square value is large relative to the number of degrees of freedom, the model being tested provides a poor fit to the data; when the Chi Square value is small, the model is said to provide a good fit to the data. As well as providing information regarding the goodness of fit of a model, LISREL IV also yields t-values regarding the significance of the assumed path from one variable to another.

LISREL IV not only permits the testing of the goodness of fit of a particular model, but also allows the comparison of competing models. In comparing the goodness of fit among competing models of a particular phenomenon, a constraint is that one model be a special, more restrictive case of the other. Chi Square values for the competing models are obtained and if the more restrictive model leads to a significant reduction

in the Chi Square value relative to the reduction in degrees of freedom, then it provides a better fit for the data. If the reduction in Chi Square relative to the reduction in degrees of freedom is not significant, then the more restrictive model does not improve on the target model.

This feature of LISREL IV is particularly useful in refining a model. Examination of the first order derivatives of an analysis suggests ways in which a model can be relaxed by introducing more parameters, thereby generating a new model. This procedure involves changing the model by adding a path suggested by the largest first order derivatives and testing the model. Whether this new model provides a better fit to the data can then be tested as described above: if the reduction in Chi Square, relative to the reduction in degrees of freedom is not significant, then the more restrictive model does not improve on the target model. This process can be carried out until no significant decrease in the Chi Square value is obtained.

Because of these features, LISREL IV seems

particularly appropriate in this study, since it not only allows the comparison of the two competing models, but also may provide information regarding future directions.

The LISREL IV models of the Gardner and Expanded Models are shown in Figures 2.1 and 2.2, respectively. The Gardner Model is composed of seven latent variables, of which two are exogenous (i.e. variability is assumed to be determined by causes outside the causal model) and five which are endogenous (i.e. variability is explained by exogenous or endogenous variables within the causal system). The Expanded Model is composed of ten latent variables, of which three are exogenous and seven are endogenous.

In a LISREL IV analysis exogenous latent variables are symbolized by KSI (ξ) and endogenous latent variables by ETA (η). The measured variables related to KSI variables are symbolized by X and those related to ETA variables by Y (see Table 2.3). Schematically, latent variables are represented by circles and measured variables by rectangles.

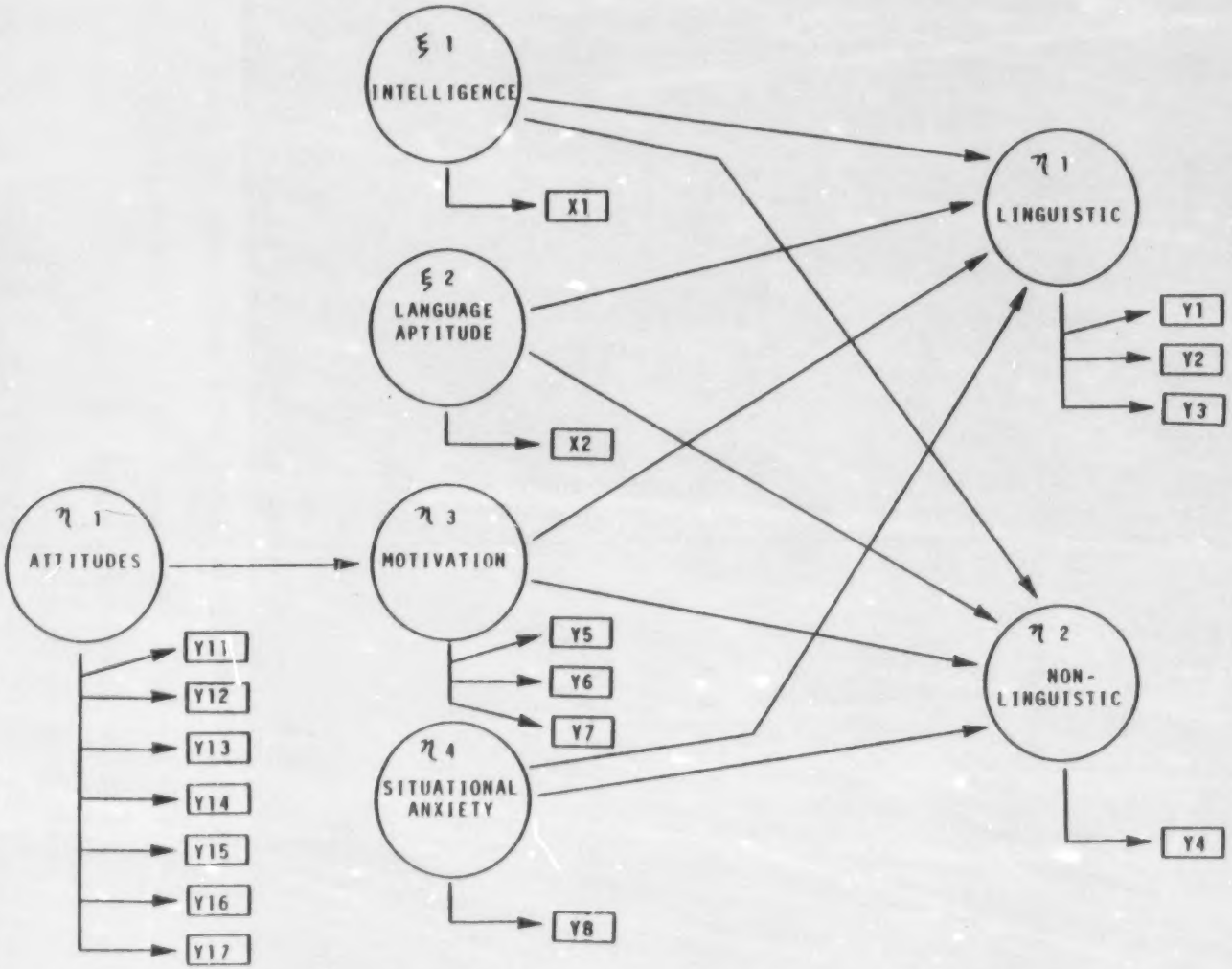

FIGURE 2.1 Schematic representation of the LISREL IV model of the Gardner Model.

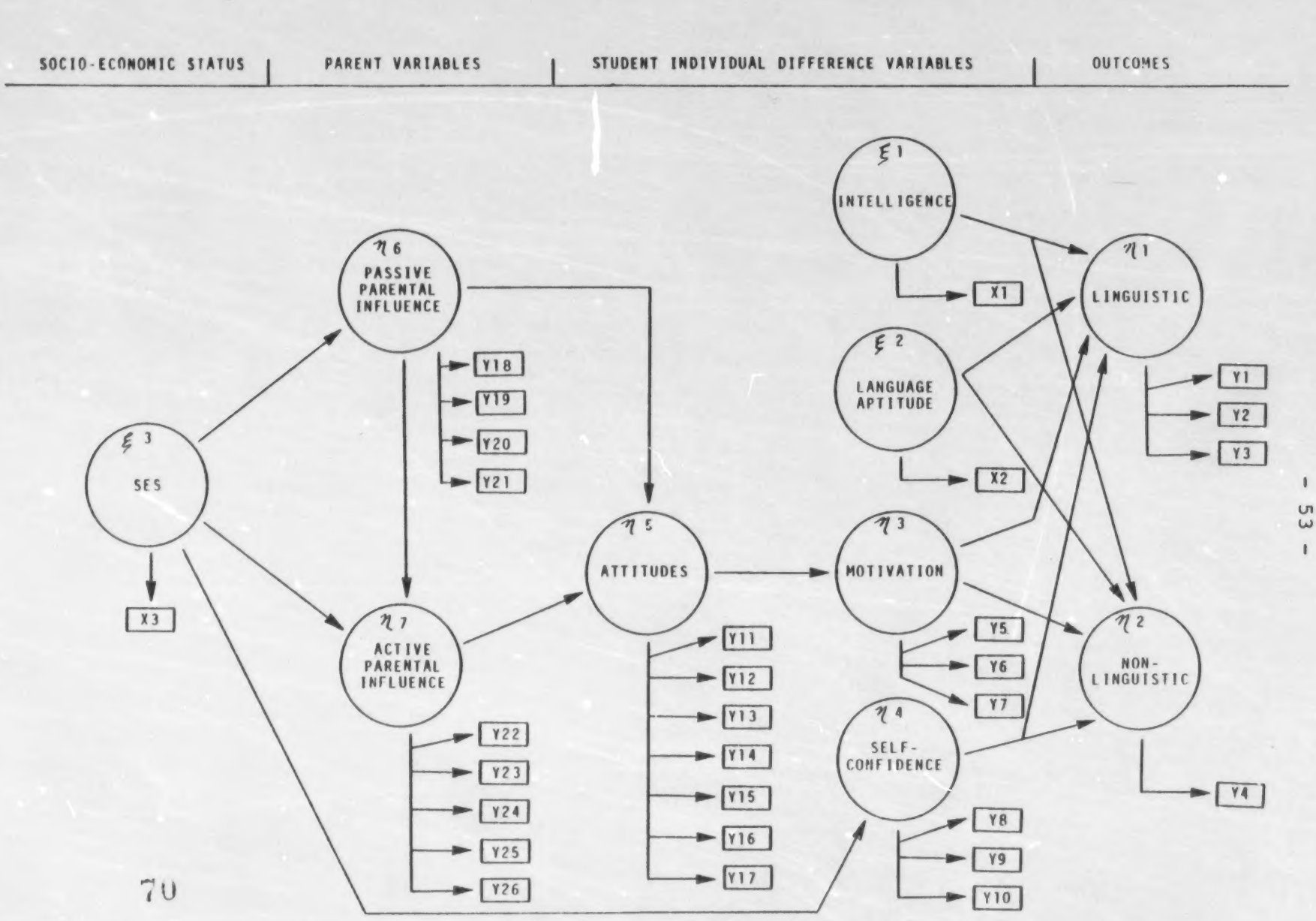

FIGURE 2.2 Schematic representation of the LISREL IV model of the Expanded Model.

Table 2.3

Latent Constructs and Their
Corresponding Measured Variables

Latent Constructs		Measured Variables	
(ξ1)	I.Q.	(X1)	Canadian Lorge-Thorndike Intelligence Test
(ξ2)	Language Aptitude	(X2)	(a) Modern Language Aptitude Test (grades 9 and 10)
			(b) Elementary Modern Language Aptitude (grades 7 and 8)
(ξ3)	Socio-economic Status (SES)	(X3)	Statistics Canada Census Information
(η1)	Linguistic Outcome	(Y1)	I.E.A. Reading Test, Population IVS
		(Y2)	O.I.S.E. Test de Mots à Trouver, Niveau 7
		(Y3)	O.I.S.E. Test de Compréhension Aurale, Niveau 7
(η2)	Non-Linguistic Outcome	(Y4)	Opportunity to Use French
(η3)	Motivation	(Y5)	Student Motivational Intensity
		(Y6)	Student Desire to Learn French
		(Y7)	Student Attitudes Towards Learning French

Table 2.3 (continued)

Latent Constructs		Measured Variables	
(η_4)	Self-Confidence with French	(Y8)	Student French Classroom Anxiety
		(Y9)	Student French Use Anxiety
		(Y10)	Student Self-Ratings in French
(η_5)	Attitudes	(Y11)	Student Attitudes Towards French-Canadians
		(Y12)	Student Future Orientation
		(Y13)	Student Instrumental Orientation
		(Y14)	Student Ethnocentrism
		(Y15)	Student Integrative Orientation
		(Y16)	Student Interest in Foreign Languages
		(Y17)	Student Perceived Parental Encouragement
(η_6)	Passive Parental Influence	(Y18)	Parental Desire to Learn French
		(Y19)	Parental Interest in Foreign Languages
		(Y20)	Parental Attitudes Towards French-Canadians
		(Y21)	Parental Integrative Orientation

Table 2.3 (continued)

Latent Constructs		Measured Variables
(η7) Active Parental Influence	(Y22)	Parental Ethnocentrism
	(Y23)	Parental Instrumental Orientation
	(Y24)	Parental Future Orientation
	(Y25)	Parental Encouragement
	(Y26)	Parental Motivational Intensity

Chapter III

PARENT SURVEY: RESULTS AND DISCUSSION

As discussed in a previous chapter, there is research evidence to suggest that parental variables may be involved in their children's second language acquisition (Feenstra, 1969; Gardner, 1972; Gardner and Lambert, 1972; Gardner, 1975). Of particular interest here is Gardner's (1968) proposition that parental influence can be broken into active and passive components. Briefly reviewing these, passive parental influence refers to the developmental influence of parental attitudes on those held by their children; active parental influence refers to direct parental encouragement of, and involvement in their children's second language study. This chapter will examine parental data to test whether parental variables can be broken down into passive and active components.

Subjects

As stated in the preceding chapter, there were 68 cases where questionnaire data was obtained from at least one parent of each child. There were 3 cases where the parents had more than one child enrolled in the Late

French Immersion Program. These parents were counted only once for the questionnaire reliability and the factor analyses.

The average SES rating of the parents who responded was 8.94 and the range was from SES ratings 3 to 15. This compares favourably to the average and range for the entire sample of 8.99 and 3 to 15 respectively. The average education of the parents was grade 13 (range = grade 5 - PhD).

With respect to the mother tongue of the parents, of those who responded to this question, 57.02 per cent cited English, 21.93 per cent cited French and 21.05 per cent cited a mother tongue other than English or French. It should be noted that while 21.93 per cent of parents cited French as their mother tongue, a study by Edwards, Fu, McCarrey and Doutriaux (1981), conducted within the same school board, observed that use of French by students outside of school was infrequent.

Results and Discussion

The first analysis of the parent questionnaire concerned the reliability of this instrument. Cronbach's alpha reliability coefficients ranged from .60 to .78

(see Table 3.1). These coefficients are similar to those obtained in past research (see Gardner and Smythe, 1975a; Gardner, Clément, Smythe and Smythe, 1979). This questionnaire is an exploratory instrument of limited length and the coefficients obtained suggest that the reliability of the questionnaire is adequate in view of its proposed use: specifically, in the detection of group trends.

The correlation matrix (Appendix H) was then factor analyzed by means of the principal axes procedure which uses communalities estimated after iteration (see Nie, Hull, Jenkins, Steinbrenner, and Bent, 1975, p. 480). Upon application of the scree test (Cattell, 1966) two factors were judged "non-trivial" and were rotated to simple structure via the varimax procedure (see Table 3.2). A naive judge was given the results of the factor analyses and asked to name the factors.

Factor I receives appreciable loadings (greater than .30) from six variables. The pattern of the loadings suggest that a mother or father who has positive attitudes towards French-Canadians (Variable 6), also expresses a greater interest in foreign languages in general (Variable 7) and in learning French in particular (Variable 8). He/She

Table 3.1

Cronbach's coefficient alpha reliability coefficients for the scales of the parent questionnaire (Cronbach, 1951)

Integrative Orientation	.77
Ethnocentrism	.65
Instrumental Orientation	.64
Future Orientation	.72
Attitudes towards French-Canadians	.78
Interest in Foreign Languages	.71
Desire to Learn French	.78
Parental Encouragement	.70
Motivational Intensity	.60

Table 3.2

Varimax rotated factor matrix of the parent questionnaire

		I	II
1	Sex	.09	.34
2	Integrative Orientation	.61	.39
3	Ethnocentrism	.28	-.43
4	Instrumental Orientation	.18	.52
5	Future Orientation	.29	.64
6	Attitudes towards French Canadians	.87	-.03
7	Interest in Foreign Languages	.69	.30
8	Desire to Learn French	.65	.26
9	Parental Encouragement	.42	.70
10	Motivational Intensity	.36	.39

also values learning French for the purpose of being better able to communicate with and become knowledgeable about the French-Canadian community (Variable 2). Further, the parent encourages the child to learn French (Variable 9) and is willing to expend energy in helping the child acquire French (Variable 10). The composition of this factor appears to reflect general attitudes that the parent holds regarding other cultures and languages (French-Canadian in particular). The judge described this factor as a "parental attitudinal/motivational characteristics factor". Thus, it seems reasonable to label this a Passive Parental Influence factor, in keeping with Gardner's (1968) formulation.

Factor II receives appreciable loadings from eight variables. The pattern of the loadings suggests that the parent who encourages second language study (Variable 9) also tends to see learning French as important to his/her child's future success, both in terms of continued school success (Variable 5) and general future success (Variable 4). Interestingly, this parent tends to be ethnocentric (Variable 3) (see footnote, page 36), while simultaneously valuing learning French for integrative reasons (Variable 2). The apparent contradiction here may well be a

reflection of the socio-political climate in the city of Ottawa, where anglophones might perceive themselves as having co-existed amicably with the francophone community in the past, but are also apprehensive that the current shift in importance of the French language may be a threat to their own, and particularly their children's future careers. Further, this parent becomes actively involved in his/her child's French language learning process (Variable 10), is more likely to be female (Variable 1), and shows an interest in foreign languages in general (Variable 7).

Factor II receives its major leadings from variables that assess more goal directed and immediate concerns and the extent of involvement of the parent in his/her child's language learning process. The judge described this as a "parents' encouragement and help factor", and again, in keeping with Gardner's (1968) formulation, is labelled an Active Parental Influence factor.

Conclusion

While past research (Feenstra, 1969; Gardner, 1972; Gardner and Lambert, 1972; Gardner, 1975) suggests that parental variables influence the development of student attitudes, the findings that this parental influence can be conceptualized as having active and passive components

suggests more specific relationships with respect to where and how parental influence operates in the language learning process. Theoretically, the development of student attitudes is most likely influenced by the passive component. The active component, while also influencing student attitudes by continuing to shape those attitudes in the present, may well contribute to the process through its influence on other variables. Specifically, research has demonstrated that a student's level of self-confidence with French can be influenced by exposure to the French language and the French language community (Clément, 1979; Clément, Gardner, and Smythe, 1977). Since the active component reflects the amount of effort and resources the parent expends on helping his/her child in acquiring French, a parent who is actively involved in the learning process may encourage and provide his/her child with more contact experiences with French and the French language community. Further, it is possible that the extent to which a parent holds favourable general attitudes towards other cultures and languages (Passive Parental Influence) would affect the Active Parental Influence factor.

These hypothesized relationships between parental influences and student variables in second language acquisition will be explored in the following chapter.

Chapter IV

SECOND LANGUAGE LEARNING MODELS: RESULTS AND DISCUSSION

In this chapter, attention is turned to the major purpose of the present study. As stated previously, the Gardner Model of second language learning is a linear model, but it has never been tested using a path analytic technique. Further, the research suggests other variables that may be operating within the second language learning process (specifically, parental influences, socio-economic status, and self-confidence with French), and that investigation of these variables may provide greater insight into the process. What follows is an examination of the Gardner and Expanded Models using LISREL IV.

Results and Discussion

1. Comparison of the sub-sample of students with the balance of the total population.

The statistical contrasts of the sub-sample of students used in the analyses with the balance of the total population does not seem to be directly relevant to the matter of generalizability of the findings, since one may have very small but statistically significant differences which would have little practical

importance. Therefore, the writer has chosen simply to present descriptive statistics for the two groups in Table 4.1. It is the writer's judgement that they do not differ markedly on the data presented, but it is left up to the reader to judge. Consequently, generalizations that are made are to be considered with this caution in mind.

2. Self-Confidence with French.

With respect to the question of expanding the concept of situational anxiety (as measured by French Classroom Anxiety) to one of self-confidence with French (as measured by French Classroom Anxiety, French Use Anxiety, and Self-Ratings in French) separate LISREL IV analyses of the Gardner Model were run. In these two analyses, the Model differed only in terms of the number of measures used to define the situational anxiety variable.

The analysis in which only French Classroom Anxiety defined the anxiety variable yielded a Chi Square value of 2765.83 (df = 372). The analysis employing French Classroom Anxiety, French Use Anxiety, and Self-Ratings in French yielded a Chi Square value of 1216.06 (df = 369). The decrease in the Chi Square value obtained by expanding the situational anxiety variable was significant at the

TABLE 4.1

Comparison of student variables between the sub-sample of students included in the analyses and the balance of the population.

Variable	Sub-Sample N=68			Balance of the Population N=79		
	MEAN	S.D.	RANGE (MIN/MAX)	MEAN	S.D.	RANGE (MIN/MAX)
O.I.S.E. Test de Mots à Trouver, Niveau 7	21.32	9.35	5-41	25.24	7.99	4-43
O.I.S.E. Test de Compréhension Aurale, Niveau 7	13.24	7.05	4-23	12.63	4.48	3-22
I.E.A. Reading Test, Population IVS	14.91	5.26	3-32	14.19	4.80	7-28
Language Aptitude	48.10	6.89	33-79	46.49	8.04	21-62
I.Q.	103.69	12.94	72-138	101.08	13.99	66-137
SES	8.94	2.73	3-15	9.04	2.96	3-15
Integrative Orientation	22.84	3.66	10-28	21.44	4.13	10-28
Ethnocentrism	38.66	6.34	22-52	37.48	6.79	12-49
Instrumental Orientation	22.32	3.97	7-28	21.04	4.95	7-28
Future Orientation	7.21	.95	3-8	7.22	.60	4-8
French Class Anxiety	23.82	5.41	13-35	23.66	8.67	5-35
French Use Anxiety	37.46	8.90	14-53	35.54	8.80	12-52
Self-Ratings in French	20.12	3.00	13-28	19.66	3.06	13-26
Attitudes Towards Learning French	55.63	9.47	33-70	52.01	11.22	16-70
Desire to Learn French	23.38	3.23	14-30	22.86	3.49	11-31
Motivational Intensity	21.15	2.80	15-27	20.20	3.65	15-27
Attitudes Towards French-Canadians	47.69	11.13	13-70	46.03	9.85	23-70
Interest in Foreign Languages	53.90	8.93	32-70	51.58	9.43	24-67
Parental Encouragement	52.09	8.39	11-63	50.22	4.81	30-63

.001 level (df = 3). This finding indicates that the model which utilizes the concept of self-confidence with French provides a better fit to the data.

3. Comparison of the Second Language Learning Models.

Turning to the main purpose of the present study, the Gardner and Expanded Models were tested using LISREL IV. The analysis of the Gardner Model (which included Situational Anxiety instead of Self-Confidence with French) yielded a Chi Square value of 2765.83 (df = 372). The analysis of the Expanded Model yielded a Chi Square value of 1136.65 (df = 363). The difference between the two Chi Square values was significant at the .001 level, indicating that the Expanded Model provides a significantly better fit to the data. This finding provides support to the hypothesis that expanding the model to include parental, socio-economic and self-confidence with French variables would result in an improvement of the model of second language learning.

With respect to the measurement model of the Expanded Model, the First Order Derivatives are small (see Appendix K) with the exception of French Use Anxiety to Motivation (-.53) and parental Integrative Orientation to Non-Linguistic Outcomes (.70). These results indicate that in the main

the measured variables load on their respective latent constructs. It should be noted that the t-value of the path from French Use Anxiety to Self-Confidence with French is significant at the .01 level. In the case of parental Integrative Orientation, it still makes the best theoretical sense to consider it in the context of Passive Parental Influence. Standardized Solutions of the LISREL IV analyses are presented in Appendix L.

Examination of the path coefficients in the Gardner Model (see Figure 4.1) showed that with respect to Linguistic Outcomes, only Language Aptitude contributed significantly ($t = 4.25$, $p < .01$). Non-Linguistic Outcomes were influenced only by Motivation ($t = 4.44$, $p < .01$). The path from Attitudes to Motivation was also significant ($t = 11.56$, $p < .01$). All other paths were non-significant.

Examination of the path coefficients in the Expanded Model (see Figure 4.2) showed that with respect to Linguistic Outcomes, only the path from Language Aptitude was significant ($t = 2.92$, $p < .01$) as in the Gardner Model. With respect to Non-Linguistic Outcomes, again as in the Gardner Model, only the path from Motivation was significant ($t = 2.94$, $p < .01$). Other significant paths were: Attitudes to Motivation ($t = 7.75$, $p < .01$); Active Parental Influence

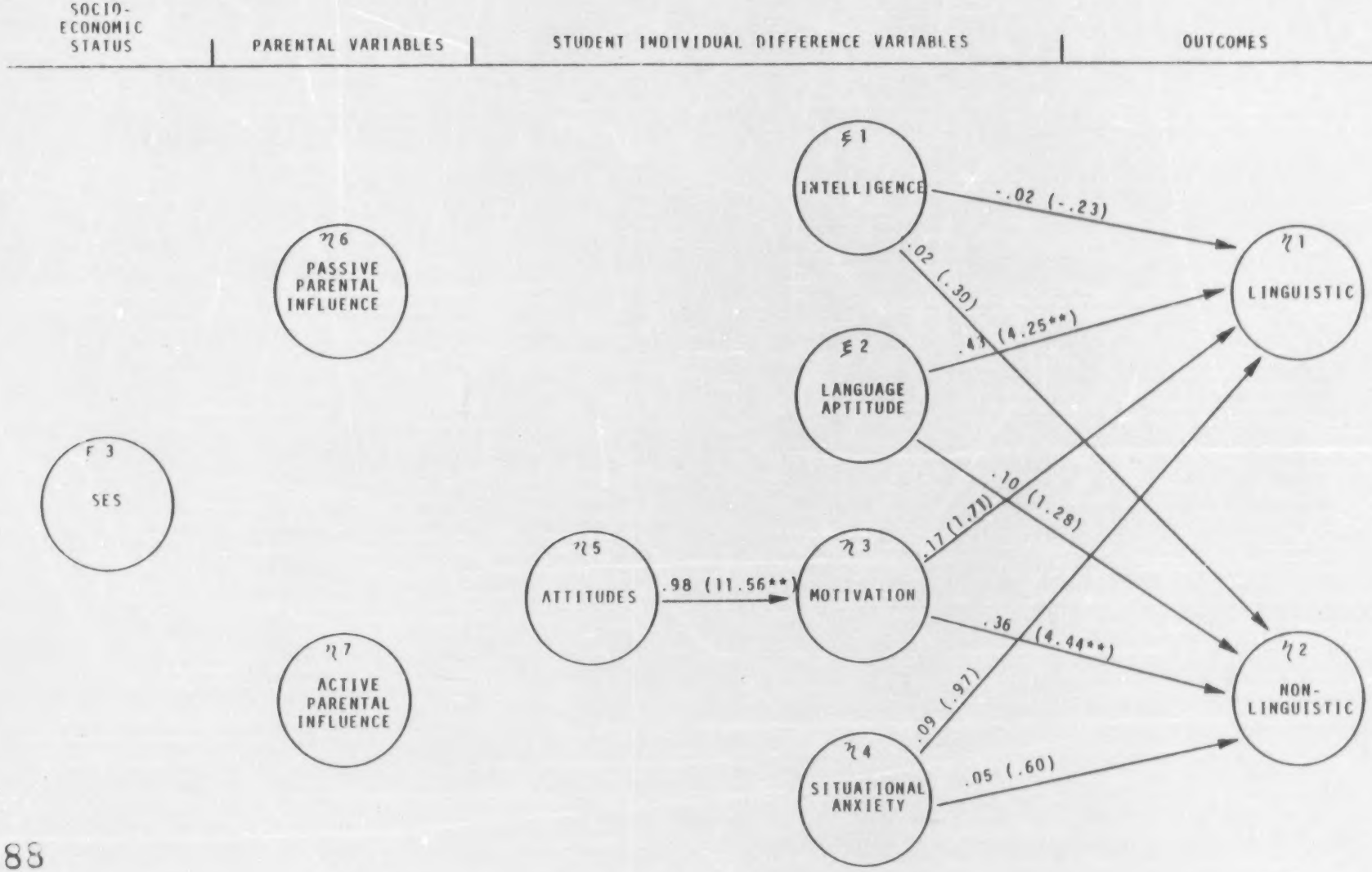

FIGURE 4.1 LISREL IV analysis of the Gardner Model. Standardized solution coefficients are displayed on the paths with their corresponding t-values in parentheses.

* $p < .05$

** $p < .05$

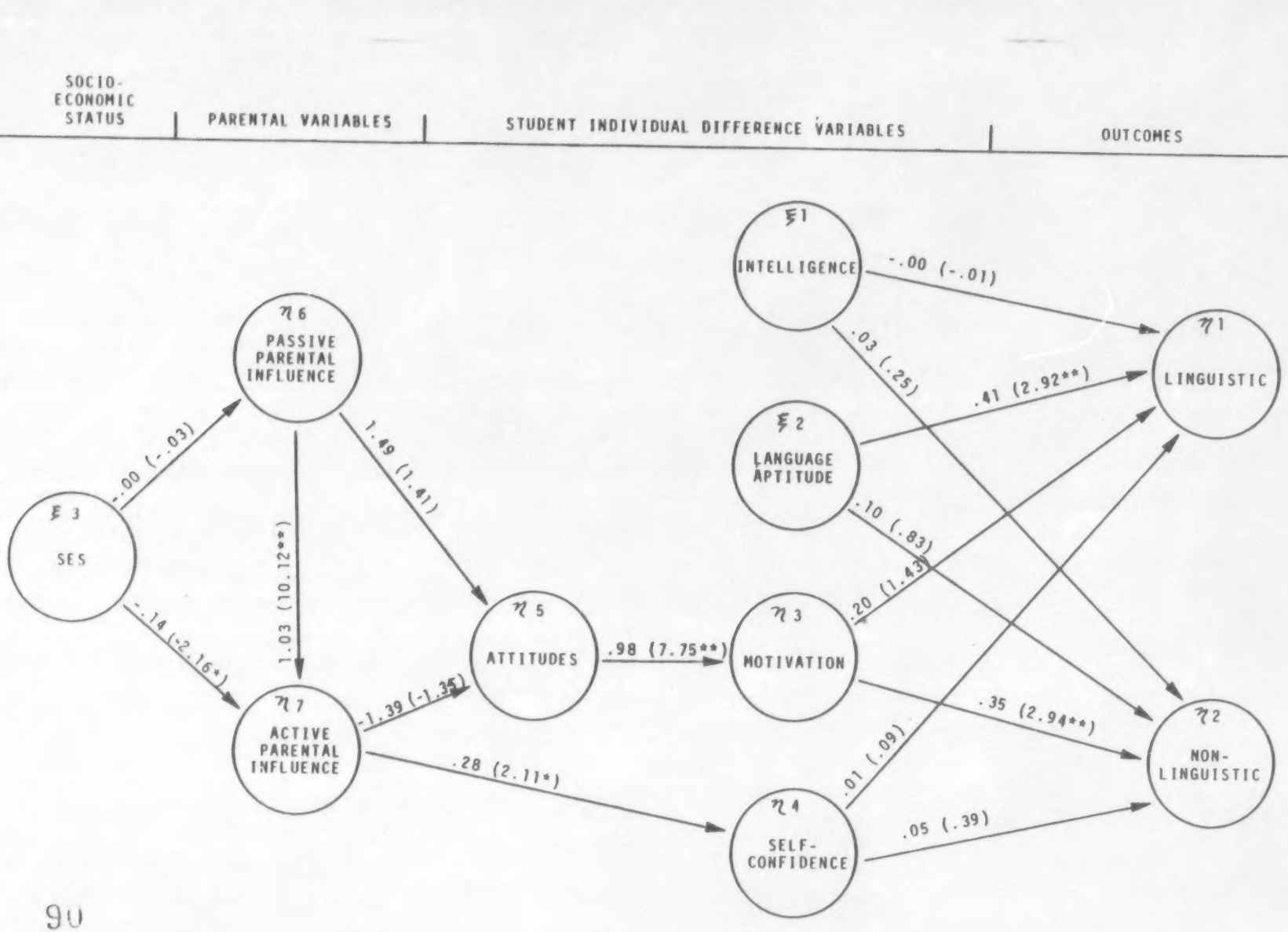

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FIGURE 4.2 LISREL IV analysis of the Expanded Model. Standardized path coefficients are displayed on the paths with their corresponding t-values in parentheses.

* $p < .05$

** $p < .01$

91

to Self-Confidence ($t = 2.11$, $p < .05$); Passive Parental Influence to Active Parental Influence ($t = 10.12$, $p < .01$); and SES to Active Parental Influence ($t = -2.16$, $p < .01$) (see Figure 4.2).

4. Model Refining.

While the Expanded Model appears to represent an improvement on the Gardner Model, it should be recalled that consistency of a model with the data only lends support to the model; it does not provide proof for it as an explanatory scheme (Kerlinger and Pehauser, 1973). Consequently it is possible for the same data to be consistent with competing causal models. As was discussed in Chapter II, LISREL IV not only allows the comparison of competing models, but also provides a procedure by which a model can be examined to determine whether paths may be added or deleted, thereby generating a new model that can be tested for goodness-of-fit.

Briefly reviewing this LISREL IV procedure, examination of the standardized solution coefficients can suggest paths that may be deleted from the existing model. These coefficients are estimates of the hypothesized contribution

between two variables. Where a coefficient is small ($<.01$) it can be hypothesized that the relative contribution of the path is negligible and that the model may be improved by deleting the path. Conversely, suggestions regarding the addition of paths to a model can be found by examining the first order derivatives. Jöreskog and Sörbom (1978) state that a model can be altered by adding the path suggested by the largest first order derivative. The new model generated by such modification can then be analysed and compared with the existing target model. This refining procedure can be continued until modifications result in no significant decrease in Chi Square being obtained, thereby indicating that the last model generated does not significantly improve on its predecessor.

What follows is an attempt to refine the Expanded Model using the above stated procedures.

(a) Modification 1

The first modification of the model consisted of the deletion of the paths from Intelligence and Self-Confidence to both Outcomes and from Language Aptitude to Non-Linguistic Outcome. Examination of the standardized solution coefficients for these

paths (see Figure 4.2) indicates that their hypothesized contributions are negligible ($< .01$). It should be noted that while the standardized solution coefficient representing the influence of SES on the Passive Parental Influence variable is also small, this path was retained, because deleting it would have changed the Passive Parental Influence variable from an endogenous to an exogenous variable. This change would have altered the model such that it would not be a more restrictive case of the original model as required by LISREL IV and would have resulted in a comparison being impossible.

LISREL IV analysis of the model (Modification 1 Model) with the stated modifications, yielded a Chi Square value of 1137.69 (df = 368). The difference between the Chi Square values of the Modification 1 Model and the Expanded Model was not significant, indicating that both models represented the data equally well. Therefore, there was no

statistical basis on which to choose between the two models. A choice could, however, be based on the fact that the degrees of freedom are increased in the Modification 1 Model, without a significant difference in Chi Square being observed. Consequently, the Modification 1 Model is more parsimonious.

(b) Modification 2

LISREL IV procedures indicate that when refining a model using the first order derivatives, the model be altered by adding a path suggested by the largest first order derivative. Beginning with the exogenous variables, therefore, the second modification of the model consisted of adding a path from Intelligence to Motivation (see Figure 4.3).

The LISREL IV analysis of the Modification 2 Model yielded a Chi Square value of 1131.58 (df = 367). The difference between the Chi Square values of the Modification 1 and 2 Model analyses was significant at the .05 level (difference = 6.11, df = 1), indicating that the Modification 2 Model provided a significantly

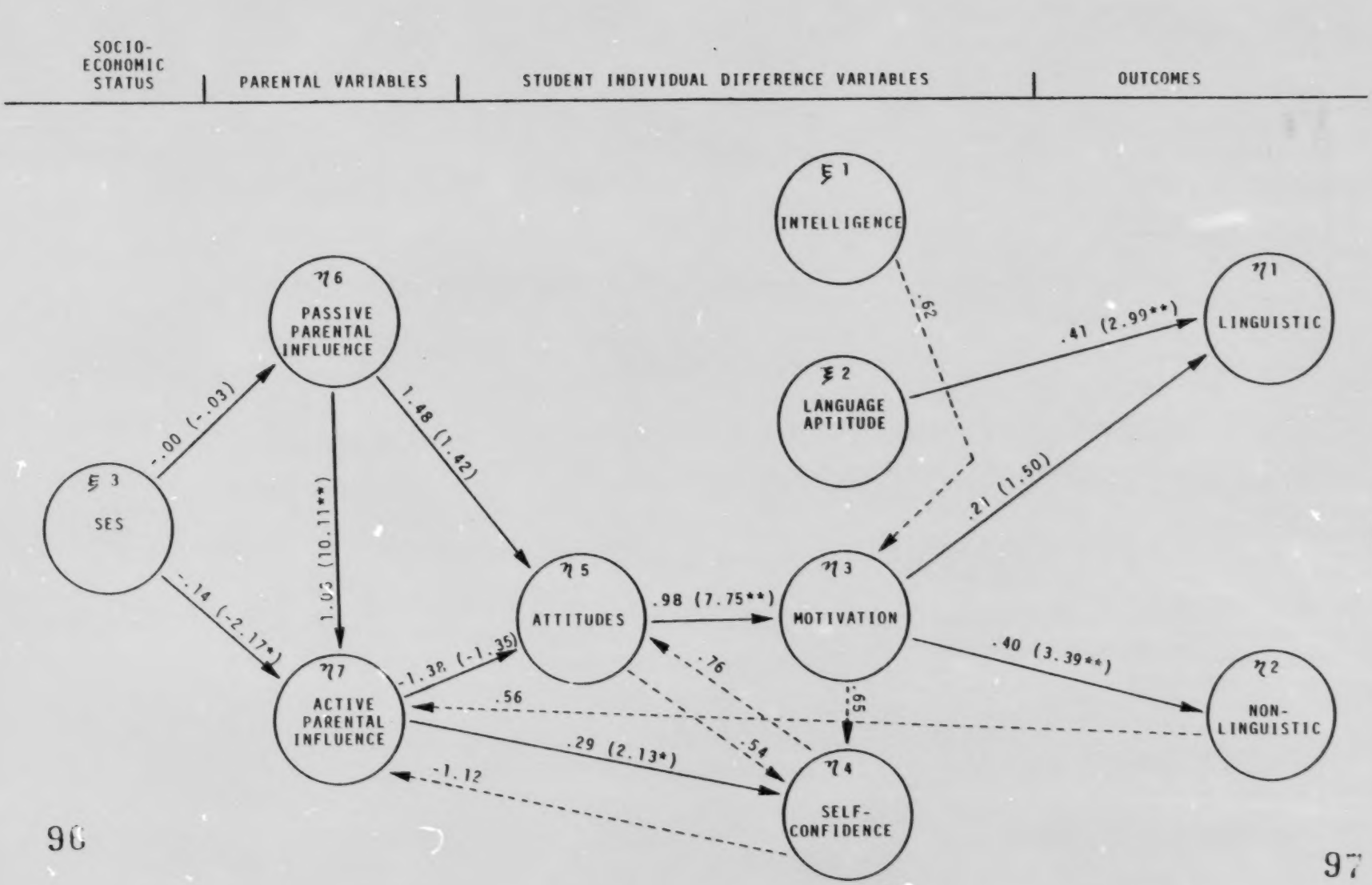

FIGURE 4.3 LISREL IV analysis of Modification 1 of the Expanded Model. Standardized path coefficients are displayed on the paths with their corresponding t-values. Paths suggested by First Order Derivatives greater than .5 are shown by broken lines.

* $p < .05$

** $p < .01$

better fit to the data than did the Modification 1 Model.

(c) Modification 3

The third modification of the model based on the first order derivatives from the Modification 2 analysis consisted of adding a path from Self-Confidence to Attitudes (see Figure 4.4). The LISREL IV analyses of the Modification 3 Model yielded a Chi Square value of 1064.35 (df = 366). The difference between the Chi Square values of the Modification 2 and 3 Model analyses was signigicant at the .001 level (difference = 67.24, df = 1), indicating that the Modification 3 Model provided a significantly better fit to the data. Subsequent modification of the model did not result in a significant improvement and the model refining procedure was terminated.

Turning to an examination of the Modification 3 Model analysis (see Figure 4.5), it is seen that Linguistic Outcome is influenced by Language Aptitude ($t = 3.01$, $p < .01$) and Motivation ($t = 1.61$, $p < .05$). Non-Linguistic Outcome is

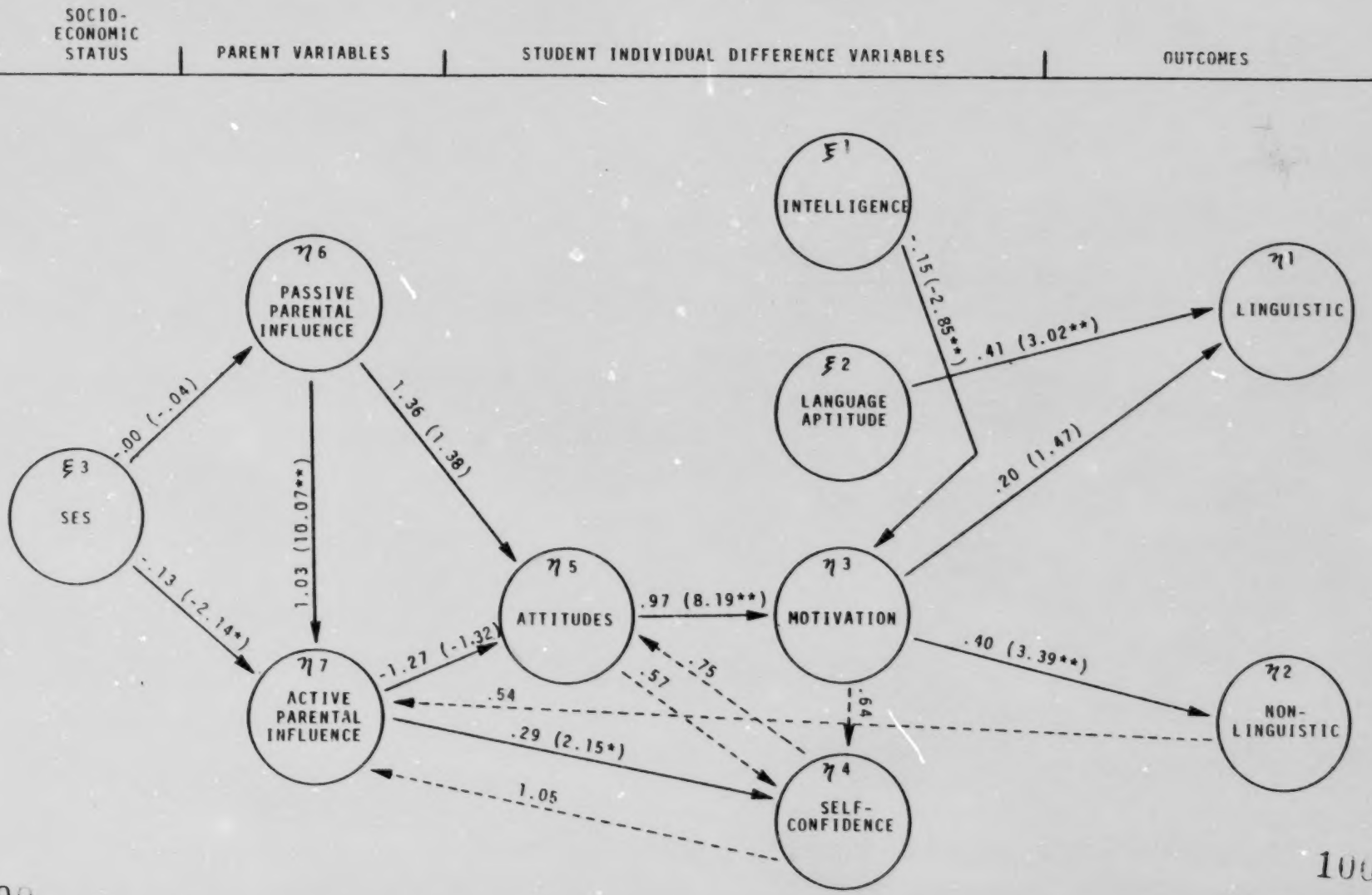

FIGURE 4.4 LISREL IV analysis of Modification 2 of the Expanded Model. Standardized path coefficients are displayed on the paths with their corresponding t-values in parentheses. Paths suggested by First Order Derivatives are shown by broken lines.

* $p < .05$

** $p < .01$

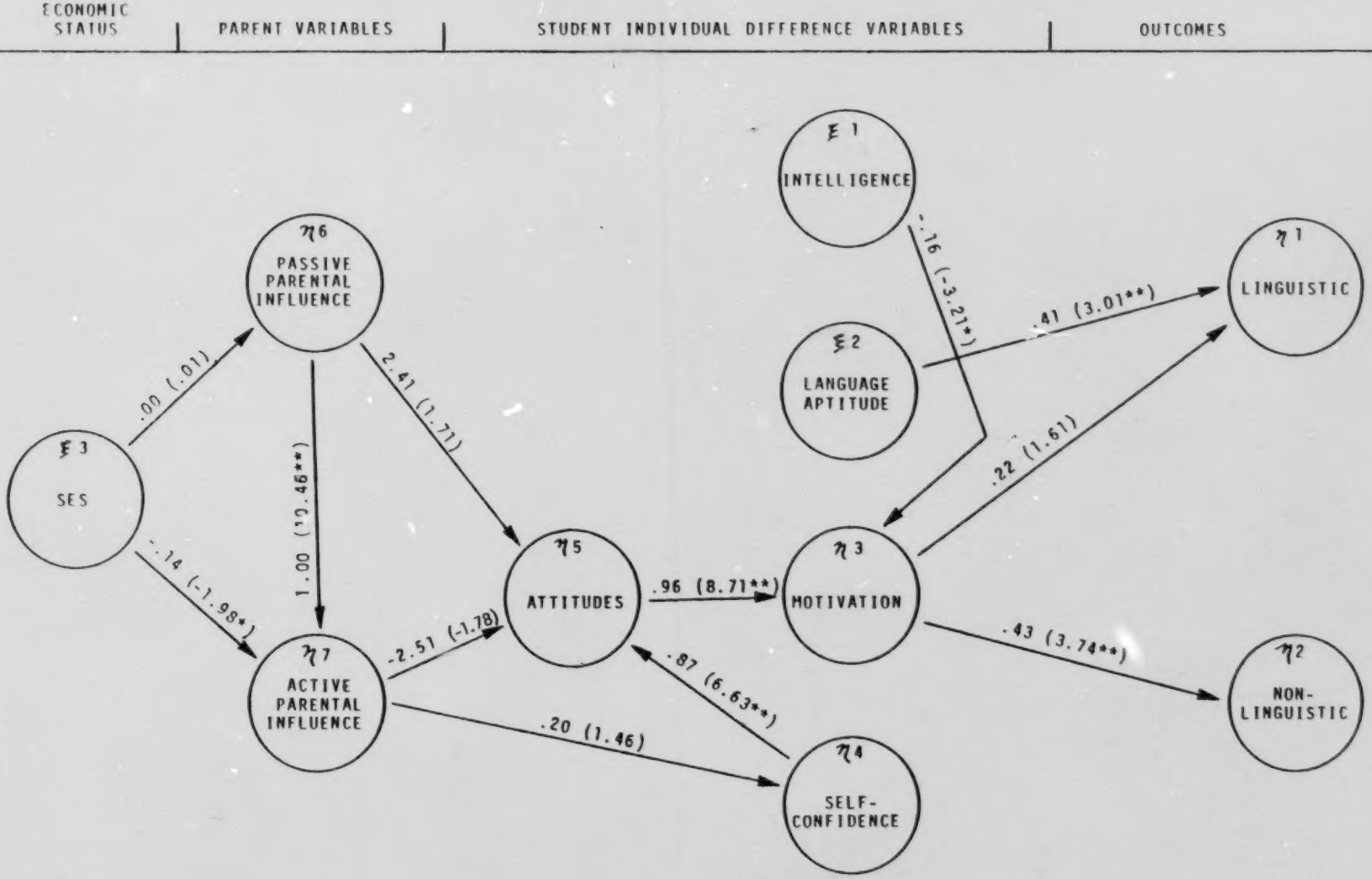

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FIGURE 4.5 LISREL IV analysis of Modification 3 of the Expanded Model. Standardized path coefficients are displayed on the paths with their corresponding t-values in parentheses.

* $p < .05$

** $p < .01$

102

influenced by Motivation only ($t = 3.74$, $p < .01$). Attitudes are influenced by Self-Confidence ($t = 6.63$, $p < .01$) and this variable in turn influences Motivation ($t = 8.71$, $p < .01$). Motivation is also influenced by I.Q. ($t = -3.21$, $p < .01$). This last result is somewhat unexpected. The negative value of the standardized solution coefficient appears to suggest an inverse relationship between these two variables.

It should be noted that the relationship between Self-Confidence and Attitudes is unexpected. Past research has demonstrated situational anxiety to have an independent influence on second language acquisition. The present finding suggests that the role of Situational Anxiety, or Self-Confidence, appears to be one of influencing Attitudes which in turn influence Motivation.

While the Passive Parental Influence variable affects the Active Parental Influence variable, no significant relationship between

either variable with the student variables is obtained. (It may be worth noting that the path between the Active Parental Influence variable and student Attitudes approaches significance at the .05 level). With respect to SES, its contribution appears to be in influencing the Active Parental Influence variable ($t = -1.98$, $p < .05$) and that the relationship is an inverse one.

Chapter V

CONCLUSION

The present research examined the appropriateness of Gardner's (1979) model of the second language learning process, as well as the utility of expanding his model to include variables whose potential importance in the process has been suggested in the literature, but which had received little empirical attention. Briefly, along with the variables in the Gardner Model, the Expanded Model included SES, parental influence, and self-confidence with French variables. It should be noted here that the size of the research sample was relatively small. Consequently, the results of this study must be considered with this limitation in mind.

Analysis of the Gardner Model provided partial support for it as a theoretical representation of the learning process. With respect to the hypothesized causal relationships within the model, the results differ in some respects from what was expected. As suggested by past research, the supporting role that attitudes play in motivation was demonstrated, as was the relationship between language aptitude and linguistic outcomes, and

between motivation and non-linguistic outcomes. The present findings offer stronger support for the causal nature of these relationships, which to date have been hypothesized based on correlational evidence and theoretical considerations only.

These, however, were the only three hypotheses in the Gardner Model that were supported. The hypothesized relationships between intelligence and outcomes, and between language aptitude and non-linguistic outcome were not supported. More notable was the observed lack of a significant relationship between motivation and linguistic outcomes and between situational anxiety and either outcome. With respect to motivation, this variable has been found not only to be consistently related to both linguistic and non-linguistic outcomes, but often their best predictor (eg. Gardner, 1979). The finding of a non-significant relationship with linguistic outcome was also obtained with the Expanded Model and this discrepancy with past research will be discussed shortly.

Findings concerning the situational anxiety variables were also not consistent with past research. While previous studies (eg. Gardner, 1979) have shown it to play a significant role in second language acquisition,

this finding was not obtained with the Gardner Model. A further analysis of the Gardner Model in which situational anxiety was replaced by the more complex self-confidence with French variable was conducted. Although this resulted in a significantly better fit to the data, the influence of situational anxiety/self-confidence with French remained non-significant. The role of self-confidence in French on second language achievement was also not significant in the analysis of the Expanded Model. These results suggest the need for a different view of the role of situational anxiety/self-confidence with French. As will be discussed later, this variable may not make a direct contribution to language outcomes as has been proposed in past research.

With respect to the Expanded Model, it was demonstrated that it provided a significantly better representation of the second language learning process than did the Gardner Model. The results verified the general sequence of the Expanded Model; the internal dynamics, however, were unclear. The hypothesized relationship between student attitudes and motivation, and the influence of student motivation on non-linguistic outcomes was supported. Motivation, however,

was not seen to significantly affect linguistic outcomes, where language aptitude had its only significant effect. These results might be attributed to the process by which students came to be enrolled in the late immersion program. Since this was an optional program, students had a say in whether they enrolled. As well, the students' level of motivation was high and relatively homogenous (Standardized Score Mean = 49.83, S.D. = 7.94, Range = 20.90 - 69.87). In such a case, language aptitude would then be a more potent predictor of outcomes (see Carroll, 1967). Student motivation would be more likely to play a role in non-linguistic outcomes, since the student would have to have a greater desire and exert more energy to engage in contacts with the second language community outside of school.

The hypothesized role of student self-confidence with French in second language achievement was not supported. As suggested with respect to the findings regarding motivation and linguistic outcomes, the non-significant results for the role of self-confidence with French in second language achievement might also have resulted from the fact that students who chose to enter the program may have been similar with respect to their perception of their capability to learn the second language. Students

whose self-confidence in French was low may well have chosen not to enroll. A further possible explanation for this finding is suggested in the results of the model refinement analyses. In the last model generated by the statistical refinements of the Expanded Model (Modification 3), self-confidence significantly influences student attitudes. This result, while differing from earlier research findings that motivation and situational anxiety variables generally made relatively independent contributions to second language achievement, does appear to be consistent with the view of the relationship between anxiety and motivation in the motivational theory literature (e.g. Atkinson and Raynor, 1974; Atkinson and Birch, 1978).

Traditionally, anxiety has been seen to moderate an individual's motivation. In the present analysis, the significant relationship between student attitudes and motivation, and the significant relationship between self-confidence and attitudes, suggests that self-confidence plays a role in second language acquisition through attitudes, and hence, motivation. Specifically, the level of self-confidence a student possesses would influence the attitudes he/she holds; these in turn would influence motivation. This

interpretation differs from that presented by Clément, Gardner, and Smythe (1980). Based on factor analyses of data for francophone students in a bilingual setting, they hypothesized that the role of self-confidence is mediated by motivation. As such, its role would be similar to that of attitudes in providing support for motivation (see also, Clément, 1980).

This discrepancy between the two interpretations of the role of self-confidence may be the result of the present study examining hypothesized causal relationships rather than describing relationships. The present interpretation proposes that the affective variables which provide support for motivation are directly influenced by self-confidence with French. Research has shown that French language programs can in fact influence a student's level of self-confidence with French (Clément, 1978-79). The proposed process would then have implications for the design of French language programs, since any program that would increase a language student's level of self-confidence with French, should also result in an increase in positive attitudes. If this proves to be the case, it would seem to be an important consideration since it would be easier to design strategies to change self-confidence with French than to change attitudes. While the interpretation

presented here is interesting, it must be kept in mind that it is based on a posteriori analyses and thus must be regarded accordingly. It does appear, however, to be a plausible explanation considering the present and past results.

With respect to the societal variables investigated here, while only exploratory, the results are consistent with what could be expected from theoretical considerations and what has been suggested by past research. The significant negative relationship between socio-economic status and active parental influence suggests that the lower the SES level of the immediate neighbourhood, the more actively involved with the child's language training the parents are. The unexpected direction of this finding may be understandable in light of the predominance of middle and upper-middle SES individuals in the present sample. Thus, it would appear to indicate that the middle and upper-middle SES parents devote more of their time and energy in their children's French language study than do higher SES parents. This could likely be the result of middle and upper-middle SES parents being more concerned with upward mobility and seeing the learning of French as an important tool in that process, particularly with respect to employment opportunities.

The present research also supports the hypothesis that parental influence is important in second language learning achievement, and further, that this influence can be thought of in terms of active and passive components as suggested by Gardner (1968). The only significant relationship between parental influence and student variables obtained in the analysis of the Expanded Model was between the active parental influence variable and student self-confidence with French. Further explanation of the parental influence with respect to linguistic outcomes is not possible since self-confidence was not significantly related to either second language outcomes.

While, as stated earlier, the analysis of Modification 3 of the Expanded Model suggested that self-confidence plays its role through student attitudes, it must also be noted that in that analysis, active parental influence on self-confidence was no longer significant. In the same analysis, however, a negative relationship between active parental influence and student attitudes approached significance ($t = -1.78$, $p < .10$) as did a positive relationship between passive parental influence and student attitudes ($t = 1.71$, $p < .10$). Cautiously interpreted, this suggests that the students' attitudes that support their

motivation are influenced by parental variables and their own self-confidence with French. This could mean that students who have high self-confidence with French and whose parents are involved with their language study are more likely to develop positive attitudes. These attitudes are important for maintaining their motivation and hence, positively affect their second language achievement.

It must be noted that the relationship between active parental influence and student attitudes is a negative one and seems to imply that the more actively involved the parent is in the child's second language training, the less favourable the student attitudes are. If there is any validity to this interpretation, it is unclear why this would be so. Possibly, the pressure exerted by parents who are more actively involved in their child's second language learning may cause him/her to feel less favourable about the elements of the second language learning experience and the second language speaking group.

In summary, the results of the present research provide partial support for the model of the second language learning process as originally presented by Gardner (1979) and, more significantly, of the Expanded Model which includes societal and parental variables. It must be

emphasized that the models presented and tested here are not the only possible models of the second language learning process. There may be other models that represent the process more precisely. The results of the present analyses, however, suggest that the Expanded Model is a plausible one, and as such, while its internal dynamics are unclear, certain conclusions would seem to be justified. Specifically, as was expected from previous research findings, both language aptitude and student motivation play significant roles in second language acquisition. Further, the role played by student attitudes does seem to be that of providing the foundation for student motivation. There is support for conceptualizing parental influence as being composed of passive and active components and that they play an important role in the second language acquisition process.

The other social milieu variable investigated here, SES, also seems to play a significant role in the acquisition process through its relationship with parental influence. In addition, the tentative finding regarding the influence of self-confidence with French on student attitudes would have important implications for our understanding of the second language learning process, and the design of second language programs. Treatment

strategies may, therefore, be focused on ensuring that self-confidence is high, and in this model, less attention would have to be paid to the more difficult task of developing strategies to change attitudes.

As stated previously, owing to the small sample size, future testing of the Expanded Model is required to see if the conclusions drawn here are tenable. As well, the role of parental influence on second language acquisition needs further examination, particularly with respect to the manner in which that influence is felt. Finally, the findings obtained here regarding the self-confidence with French variable would suggest the need to examine its role in the learning process, and that it may be useful to consider its influence in the context of traditional motivational theory.

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Appendix A

ROTATED FACTOR MATRICES OF THE PARENT QUESTIONNAIRES

TABLE A.1

Varimax rotated factor matrix of the Parent Questionnaire

		I	II
1	Sex	.09	.34
2	Integrative Orientation	.61	.39
2	Ethnocentrism	.28	-.43
4	Instrumental Orientation	.18	.52
5	Future Orientation	.29	.64
6	Attitudes Towards French-Canadians	.87	-.03
7	Interest in Foreign Languages	.69	.30
8	Desire to Learn French	.65	.26
9	Parental Encouragement	.42	.70
10	Motivational Intensity	.36	.39

TABLE A.2

Varimax rotated factor matrix of fathers' questionnaires only

		I	II
1	Sex	-	-
2	Integrative Orientation	.71	.34
3	Ethnocentrism	.18	-.50
4	Instrumental Orientation	.38	.70
5	Future Orientation	.46	.56
6	Attitudes Towards French-Canadians	.81	-.04
7	Interest in Foreign Languages	.78	.08
8	Desire to Learn French	.78	.06
9	Parental Encouragement	.63	.45
10	Motivational Intensity	.50	.14

TABLE A.3

Varimax rotated factor matrix of mothers' questionnaires only

		I	II
1	Sex	-	-
2	Integrative Orientation	.56	.20
3	Ethnocentrism	.34	-.47
4	Instrumental Orientation	.04	.26
5	Future Orientation	.18	.42
6	Attitudes Towards French-Canadians	.91	-.06
7	Interest in Foreign Languages	.60	.37
8	Desire to Learn French	.53	.40
9	Parental Encouragement	.23	.69
10	Motivational Intensity	.20	.61

Appendix B

STUDENT QUESTIONNAIRE

NAME _____

Code Number:_____School:_____Class: _____

Instructions

You are being asked to complete this questionnaire as part of a project to investigate the late immersion programs in the Ottawa Separate Schools. For the results of this survey to be meaningful it is important that you be as accurate and as frank as possible in your answers. All information that you provide us will be kept STRICTLY CONFIDENTIAL and neither your parents nor teachers have access to it.

Part I and Part II are to be filled out on this questionnaire. For Part III and Part IV please use the answer sheet provided.

If you have any questions while you are filling out this questionnaire, do not hesitate to ask for assistance by raising your hand.

PART I

1. a) During the last 12 months have you had the opportunity to use French outside of the school situation?

Yes _____ No _____

b) If yes, in what ways and where _____

_____

_____

2. Please indicate all languages that are spoken in your home:

English _____

French _____

German _____

Italian _____

Spanish _____

Others (please specify) _____

3. Please indicate which language you speak well:

English _____

French _____

German _____

Italian _____

Spanish _____

Others (please specify) _____

PART II

Instructions

Please answer the following items based on what you feel your abilities are in French in school. Indicate your answers to each statement by putting a checkmark (✓) in the appropriate space. If you feel, for example, that in school you can write French "a little", you would put a check above the words "a little" on the scale:

I write French:

_____: _____: ✓_____: _____: _____: _____:
not at all a little fairly well

_____
fluently

If however, you feel you write French somewhere between "a little" and "not at all", you would put a check in the space between these two on the scale:

_____: ✓_____: _____: _____: _____: _____:
not at all a little fairly well

_____
fluently

---

1. I write French:

_____: _____: _____: _____: _____: _____:
not at all a little fairly well

_____
fluently

2. I understand French:

_____: _____: _____: _____: _____: _____:
not at all a little fairly well

_____
fluently

3. I read French:

_____: _____: _____: _____: _____: _____:
not at all a little fairly well

_____
fluently

4. I speak French:

_____: _____: _____: _____: _____: _____:
not at all a little fairly well

_____
fluently

PART III

Instructions

Following are a number of statements with which some people agree and others disagree. Below each statement are a number of alternatives. There are no right or wrong answers since many people have different opinions.

On the answer sheet provided we would like you to indicate your opinion about each statement by darkening the letter of the alternative which best indicates the extent to which you disagree or agree with that statement.

Following is a sample item. Select the alternative which best indicates your feeling:

1. Guy Lafleur is the best player to have ever played in the National Hockey League.

(A)	Strongly Disagree	(B)	Moderately Disagree	(C)	Slightly Disagree	(D)	Neutral
(E)	Slightly Agree	(F)	Moderately Agree	(G)	Strongly Agree		

Some people would select (A), Strongly Disagree, others would select (G), Strongly Agree and still others would select one of the alternatives in between. Once you have selected the alternative that indicates your feelings based on everything you know and have heard, you would go to the answer sheet provided and beside the number corresponding to the statement number, darken the letter than indicates your choice. For example, if in this sample item you "moderately agree" with the statement, then on the answer sheet you would darken the letter (F) beside the appropriate item number.

EG. 1. (A) (B) (C) (D) (E) (■) (G)

Note, there is no right or wrong answer. All that is important is that you indicate your personal feeling.

For each of the items on the following pages, we want you to give immediate reactions. Don't waste time thinking about each statement. Give your immediate feeling after reading each statement. On the other hand, please do not be careless, as it is important that we obtain your true feelings. All of your answers will be kept secret.

1. Studying French can be important to me because it will allow me to meet and converse with more and varied people.

   (A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

   (E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

2. My parents have stressed the importance French will have for me when I leave school.

   (A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

   (E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

3. The French-Canadian heritage is an important part of our Canadian identity.

   (A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

   (E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

4. Studying French can be important for me because other people will respect me more if I have a knowledge of a foreign language.

   (A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

   (E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

5. Play fair with your own friends and let others look out for themselves.

   (A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

   (E) Slightly Agree (F) Moderately Agree (G) Slightly Agree

6. I want to read the literature of a foreign language in the original.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

7. If everything would change, this world would be much better.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

8. Learning French is a waste of time.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

9. Studying French can be important for me because I will be able to participate more freely in the activities of other cultural groups.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

10. There is only one right way to do anything.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

11. I enjoy meeting and listening to people who speak other languages.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

12. My parents really encourage me to study French.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

13. Studying a foreign language is an enjoyable experience.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

14. People who do not believe that we have the best kind of government in the world should be made to leave the country.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

15. Studying French can be important for me because I think it will someday be useful in getting a good job.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

16. I would feel comfortable speaking French in an informal gathering where both English and French speaking people are present.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

17. My parents try to help me with my French.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

18. When I am making a telephone call, I would get flustered if it were necessary to speak French.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

19. Even though Canada is relatively far from countries speaking other languages, it is important for Canadians to learn foreign languages.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

20. If a person does not watch out somebody will make a fool out of him.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

21. If I planned to stay in another country, I would make a great effort to learn the language even though I could get along in English.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

22. I think that learning French is dull.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

23. Most French Canadians are so friendly and easy to get along with that Canada is fortunate to have them.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

24. My parents feel that I should really try to learn French.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

25. French-Canadians are a very sociable, warm-hearted and creative people.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

26. My parents show considerable interest in anything to do with my French courses.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

27. I would feel uncomfortable speaking French in any situation.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

28. When I leave school I shall give up the study of French entirely because I am not interested in it.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

29. If I had to speak French with someone in authority it would cause me great discomfort.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

30. I would rather spend my time on subjects other than French.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

31. The more I get to know the French-Canadians, the more I want to be fluent in their language.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

32. I get nervous and confused when I am speaking in my French class.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

33. I am sure I would get nervous whenever I had to speak French to a sales clerk.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

34. I wish I could speak another language perfectly.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

35. I would feel confident and relaxed if I had to ask for street directions in French.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

36. I am afraid the other students will laugh at me when I speak French.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

37. It is only natural and right for each person to think that his family is better than any other.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

38. I love learning French.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

39. My parents encourage me to practice my French as much as possible.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

40. Learning French is really great.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

41. It embarasses me to volunteer answers in our French class.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

42. Some of our best citizens are of French-Canadian descent.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

43. I am sure I would feel calm and sure of myself if I had to order a meal in a French restaurant.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

44. English Canadians should make a greater effort to learn the French language.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

45. Studying French can be important for me primarily because it will enable me to better understand and appreciate French-Canadian art and literature.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

46. I would like to know more French Canadians.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

47. Studying French can be important for me because it will enable me to better understand and appreciate French-Canadian art and literature.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (B) Strongly Agree

48. I never feel quite sure of myself when I am speaking in our French class.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

49. I hate French.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

50. Studying French can be important to me because it will allow me to be more at ease with fellow Canadians who speak French.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

51. I plan to learn as much French as possible.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

52. My parents feel that because we live in Canada, I should learn French.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

53. If Canada should lose the French culture of Quebec, it would indeed be a great loss.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

54. Studying French can be important for me because it will make me a more knowledgeable person.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

55. The worst danger to real Canadianism during the last fifty years has come from foreign ideas and agitators.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

56. My parents urge me to seek help from my teacher if I am having problems with my French.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

57. I really enjoy learning French.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

58. My parents feel that I should continue studying French all through school.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

59. If I were visiting a foreign country I would like to be able to speak in the language of the people.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

60. I always feel that the other students speak French better than I do.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

61. French Canadians have preserved much of the beauty of the old Canadian folkways.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

62. I would really like to learn a lot of foreign languages.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

63. French-Canadians add a distinctive flavour to the Canadian culture.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

64. I often wish I could read newspapers and magazines in another language.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

65. French is an important part of the school programme.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

66. If I should ever meet a French-speaking person, I would feel relaxed talking with him.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

67. I would study a foreign language even if it were not required.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

68. Teachers should tell children what to do and not try to find out what the children want.

(A) Strongly Disagree (B) Moderately Disagree (C) Slightly Disagree (D) Neutral

(E) Slightly Agree (F) Moderately Agree (G) Strongly Agree

PART IV

Instructions

On the answer sheet please answer each of the following items by darkening the letter of the alternative which appears to be most applicable to you. We would like to remind you that no individual teacher will have access to the questionnaire or any other information which you give us. We would urge you to be as accurate as possible since the success of this investigation depends upon it.

1. I find studying French:

   (a) not interesting at all.
   (b) no more interesting than most subjects.
   (c) very interesting.

2. I actively think about what I have learned in my French classes:

   (a) hardly ever.
   (b) once in a while.
   (c) very frequently.

3. If there were French-speaking families in my neighbourhood, I would:

   (a) never speak French with them.
   (b) speak French with them only if I had to.
   (c) speak French with them sometimes.
   (d) speak French with them as much as possible.

4. If I had the opportunity and knew enough French, I would read French magazines and newspapers:

   (a) never.
   (b) not very often.
   (c) as often as I could.

5. If my teacher wanted someone to do an extra French assignment, I would:

   (a) definitely not volunteer.
   (b) only do it if the teacher asked me directly.
   (c) definitely volunteer.

6. If there were a French Club in my school, I would:

   (a) definitely not join
   (b) attend meetings once in a while.
   (c) be most interested in joining.

7. How much do you think acquiring good French language skills will help you in your future studies?

   (a) will be no help.
   (b) will be practically no help.
   (c) will be of some help.
   (d) will be a great help.

8. If I had the opportunity to speak French outside of school, I would:

   (a) never speak it.
   (b) speak it occasionally, using English whenever possible.
   (c) speak French most of the time, using English only if really necessary.

9. After I get my French assignments back, I:

   (a) just throw them in my desk and forget them.
   (b) look them over, but don't bother correcting mistakes.
   (c) always rewrite them, correcting my mistakes.

10. During French class, I would like:

    (a) to have as much English as possible spoken.
    (b) to have a combination of French and English spoken.
    (c) to have only French spoken.

11. When I hear a French song on the radio, I:

    (a) change the station.
    (b) listen to the music, paying attention only to the easy words.
    (c) listen carefully and try to understand all the words.

12. If I had the opportunity to see a French play, I would:

    (a) not go.
    (b) go only if I had nothing else to do.
    (c) definitely go.

13. If French were not taught in school, I would:

(a) not bother learning French at all.
(b) try to obtain lessons in French somewhere else.
(c) pick up French in everyday situations (i.e., read French books and newspapers, try to speak it whenever possible, etc.....).

14. If it were up to me whether or not to take French, I:

(a) would drop it.
(b) don't know whether I would take it or not.
(c) would definitely take it.

15. If the opportunity arose and I knew enough French, I would watch French T.V. programmes:

(a) never.
(b) sometimes.
(c) as often as possible.

16. When it comes to French homework, I:

(a) just skim over it.
(b) put some effort into it, but not as much as I could.
(c) work very carefully, making sure I understand everythink.

17. Compared to my other courses, I like French:

(a) least of all.
(b) the same as all the others.
(c) the most.

18. When I have a problem understanding something we are learning in French class, I:

(a) just forget about it.
(b) only seek help just before the exam.
(c) immediately ask the teacher for help.

19. How important do you think acquiring good French language skills is to your future studies?

(a) not at all important.
(b) not too important.
(c) important.
(d) very important.

20. When I am in French class, I:

(a) never say anything.
(b) answer only the easier questions.
(c) volunteer answers as much as possible.

21. Considering how I study French, I can honestly say that I:

(a) will pass on the basis of sheer luck or intelligence, because I do very little work.
(b) do just enough work to get along.
(c) really try to learn French.

Student Questionnaire Scale Location Key

Scale	Item Numbers	
Integrative orientation	1, 9, 47, 50	(Part III)
Ethnocentrism*	5, 7, 10, 14, 20, 37, 55, 68	(Part III)
Instrumental orientation	4, 15, 45, 54	(Part III)
Future orientation	7, 19	(Part IV)
French classroom anxiety*	32, 36, 41, 48, 60	(Part III)
French use anxiety	16, 18*, 27*, 29*, 33*, 35, 43, 66	(Part III)
Self-rating in French	1, 2, 3, 4	(Part I)
Attitudes towards learning French	8*, 22*, 28*, 30*, 38 40, 49*, 51, 57, 65	(Part III)
Desire to learn French	1, 3, 4, 6, 8, 10, 12, 14, 15, 17	(Part IV)
Motivational intensity	2, 5, 9, 11, 13, 16, 18, 20, 21	(Part IV)
Attitudes towards French Canadians	3, 23, 25, 31, 42, 44, 46, 53, 61, 63	(Part III)
Interest in foreign languages	6, 11, 13, 19, 21, 34, 59, 62, 64, 67	(Part III)
Parental encouragement	2, 12, 17, 24, 26, 39, 52, 56, 58	(Part III)

* scores need to be reversed

Appendix C

PARENT QUESTIONNAIRE

All responses will be kept strictly confidential and can not be traced to any individual. If you do not want to answer any particular item you do not have to. However, you should realize that the usefulness of your questionnaire will be lessened to the extent that you do not answer each item. We, therefore, urge you to answer all items unless it is important to you personally to omit certain ones. Please respond as openly as possible.

GENERAL INFORMATION

1. Age: _____

2. Mother Tongue: _____

3. Occupation: _____

4. Please indicate with a check mark (✓) all languages that are spoken in your home:

English _____

French _____

German _____

Italian _____

Spanish _____

Others (please specify) _____

5. Please indicate which language you speak well:

   French _____

   German _____

   Italian _____

   Spanish _____

   Others (please specify) _____

6. Level of education completed _____.

PART I

Instructions

Following are a number of statements with which some people agree and others disagree. There are no right or wrong answers since many people have different opinions. We would like you to indicate your opinion about each statement by circling the alternative below it which best indicates the extent to which you disagree or agree with that statement.

Following is a sample item. Circle the alternative below the statement which best indicates your feeling.

1. Guy Lafleur is the best player to have ever played in the National Hockey League.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

In answering this question, you should have circled one of the above alternatives. Some people would circle Strongly Disagree, others would circle Strongly Agree, and still others would circle one of the alternatives in between. If for example you moderately agree with this statement, then you circle "Moderately Agree":

eg.	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
	Slightly Agree	(Moderately Agree)	Strongly Agree	

Which one you circle would indicate your own feelings based on everything you know and have heard. Note there is no right or wrong answer. All that is important is that you indicate your personal feeling.

For each of the items on the following pages, we want you to give your immediate reactions. Don't waste time thinking about each statement. Give your immediate feeling after reading each statement. On the other hand, please do not be careless as it is important that we obtain your true feelings.

1. English Canadians should make a greater effort to learn the French language.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

2. I really encourage my child to study French.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

3. If a person does not watch out someone will make a fool out of him.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

4. If I were visiting a foreign country I would like to be able to speak the language of the people.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

5. People who do not believe that we have the best kind of government in the world should be made to leave the country.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

6. Studying French can be important because I think it would someday be useful for my child in getting a good job.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

7. I enjoy meeting and listening to people who speak other languages.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

8. Studying French can be important because I think it would make my child a more knowledgeable person.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

9. The more I get to know the French-Canadians, the more I want to be fluent in their language.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

10. I show considerable interest in anything to do with my child's French courses.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

11. Some of our best citizens are of French-Canadian descent.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

12. I try to help my child with his/her French.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

13. I want to read the literature of a foreign language in the original.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

14. Studying French can be important because it would allow my child to meet and converse with more and varied people.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

15. The French-Canadian heritage is an important part of our Canadian identity.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

16. There is only one right way to do things.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Slightly Agree	

17. If Canada should lose the French culture of Quebec, it would indeed be a great loss.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

18. Studying French can be important because other people would respect my child more if he/she has a knowledge of a foreign language.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

19. Studying French can be important because it would enable my child to better understand and appreciate French-Canadian art and literature.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

20. I feel that my child should devote more time to his/her French studies.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

21. Only people who are like myself have a right to be happy.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

22. I would study a foreign language if I had the opportunity.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

23. Studying French can be important for my child because it will allow him/her to be more at ease with fellow Canadians who speak French.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

24. Studying a foreign language is an enjoyable experience.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Slightly Agree	

25. Studying French can be important primarily because my child would need it for a future career.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

26. The worst danger to real Canadianism during the last fifty years has come from foreign ideas and agitators.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

27. Studying French can be important because my child would by able to participate more freely in the activities of other cultural groups.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

28. I urge my child to seek help from the teacher if he/she is having problems with French.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral
Slightly Agree	Moderately Agree	Strongly Agree	

PART II

Instructions

Please answer the following items by circling the letter of the alternative which appears most applicable to you. We would like to remind you that the information you provide is not associated with your name and is therefore secret. We would urge you to be as accurate as possible.

---

29. If I had the opportunity and knew enough French, I would read French magazines and newspapers:

(a) never.
(b) not very often.
(c) as often as I could.

30. I have spoken to my child's French teacher about his/her progress:

(a) never.
(b) a few times.
(c) often.

31. If I had the opportunity to see a French play, I would:

(a) not go.
(b) go only if I had nothing else to do.
(c) definitely go.

32. I sit and watch French television programs with my child:

(a) never.
(b) once in a while.
(c) often.

33. How much do you think acquiring good French skills will help your child in his/her future studies?

(a) will be no help.
(b) will be practically no help.
(c) will be of some help.
(d) will be a great help.

34. If there were French-speaking families in my neighbourhood:

(a) I would never speak French with them.
(b) I would try to speak French with them only if I had to.
(c) I would try to speak French with them sometimes.
(d) I would try to speak French with them as much as possible.

35. I ask my child for French translations of English words:

(a) never.
(b) rarely.
(c) often.

36. If the opportunity arose and I knew enough French, I would watch French T.V. programmes:

(a) never.
(b) sometimes.
(c) as often as possible.

37. Of the books and magazines I buy for my family:

(a) none of them are French.
(b) a few of them are French.
(c) many of them are French.

38. If I was given the opportunity to learn French:

(a) I would definitely not take it.
(b) I don't know whether I would take it or not.
(x) I would definitely take it.

39. I ask my child about his/her French courses:

(a) never.
(b) sometimes.
(c) often.

40. I think studying French would be:

(a) not interesting at all
(b) no more interesting than most subjects.
(c) very interesting.

41. How important do you think acquiring good French language skills is to your child's future studies?

(a) not important at all.
(b) not too important.
(c) fairly important.
(d) important.
(e very important.

Parent Questionnaire Scale Location Key

Scale	Item Numbers	
Integrative orientation	14, 19, 23, 27	(Part I)
Ethnocentrism*	3, 5, 16, 21, 26	(Part I)
Instrumental orientation	6, 8, 18, 25	(Part I)
Future orientation	33, 41	(Part II)
Attitudes towards French Canadians	1, 9, 11, 15, 17	(Part I)
Interest in foreign languages	4, 7, 13, 22, 24	(Part I)
Desire to learn French	29, 31, 34, 36, 38 40	(Part II)
Parental encouragement	2, 10, 12, 20, 28	(Part I)
Motivational intensity	30, 32, 35, 37, 39	(Part II)

* scores need to be reversed

Appendix D

TEST ADMINISTRATION SCHEDULE

Test	Administration Date
Student Questionnaire	December, 1978
O.I.S.E. Test de Mots à Trouver, Niveau 7	March, 1979
O.I.S.E. Test de Comprehension Aurale, Niveau 7	March, 1979
I.E.A. Reading Test, Population IVS	March-April, 1979
Modern Language Aptitude Test (also Elementary Modern Language Aptitude Test)	December, 1978
Lorge-Thorndike Intelligence Test	November, 1978
Parent Questionnaire	March, 1979

Appendix E

LETTER TO PARENTS

Second Language Learning
Evaluation Project
St. Patrick's Elementary School
290 Nepean Street
Ottawa, Ontario
K1R 5G3
March 26, 1979

237-5600, Ext. 166

Dear Parent,

As you may already know, we are conducting a research project concerning the late immersion program in the Ottawa Separate Schools. Because parental views are very important in the context of program evaluation and program planning, we need to know how you feel about a number of things that may be related to pupil performance in this program.

To our knowledge, parents' feelings about second language programs have never been systematically studied. Thus, if you are able to provide us with the following information we will be very grateful. Specifically we would appreciate your cooperation in filling out the enclosed questionnaire. This will require approximately one-half hour of your time. Despite your busy schedule, would it be possible for you to fill out this questionnaire and have your child return it in the enclosed envelope to the principal of the school by April 6, 1979?

We would like to emphasize that any information you provide will be absolutely confidential. To insure this, we have developed a coding system whereby the scores of each child will be given a code number. Following initial coding,

the information can in no way be traceable to you or your children. Your child's code number is printed on the enclosed questionnaire. This is necessary in order for us to correlate data provided by parents and children participating in the study. The code will be kept by the principal investigator at his University of Ottawa office, who, once all data have been obtained will destroy the code, and thereby, any link between the code number and individual names.

Should you have more than one child bring home one of these questionnaires, please fill out and return only one questionnaire, but below the code number include the code number of the unfilled questionnaire. Spouses are asked to fill out their questionnaires independently.

We greatly appreciate your participation in this project.

Sincerely,

HPE, SPC/cm
Enclosures

H.P. Edwards, Ph.D.
Principal Investigator
University of Ottawa

S.P. Colletta, M.A.
Research Officer
Second Language Learning
Evaluation Project

Appendix F

Analysis of variance summary table for the I.Q. by SES analysis.

Source	SS	df	MS	F	P
Main Effects	951.98	1	951.98	5.75	.02
SES	951.98	1	951.98	5.75	.02
Explained	951.98	1	951.98	5.75	.02
Residual	14085.29	85	165.71		
Total	15037.27	86	174.85		

Appendix G

SPECIFICATION OF MATRICES FOR THE LISREL IV ANALYSES

1. Gardner Model

$\underline{\beta}$ (BE = FULL, FIXED) $\qquad$ $\underline{\Gamma}$ (GA = FULL, FIXED)

$$\begin{bmatrix} \eta 1 & \eta 2 & \eta 3 & \eta 4 & \eta 5 & \eta 6 & \eta 7 \\ 1 & 0 & \beta 1 & \beta 2 & 0 & 0 & 0 \\ 0 & 1 & \beta 3 & \beta 4 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & \beta 5 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} \eta 1 \\ \eta 2 \\ \eta 3 \\ \eta 4 \\ \eta 5 \\ \eta 6 \\ \eta 7 \end{bmatrix} = \begin{bmatrix} \gamma 1 & \gamma 2 & 0 \\ \gamma 3 & \gamma 4 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} \xi 1 \\ \\ \\ \xi 2 \\ \\ \\ \xi 3 \end{bmatrix} \quad \begin{bmatrix} \zeta 1 \\ \zeta 2 \\ \zeta 3 \\ \zeta 4 \\ \zeta 5 \\ \zeta 6 \\ \zeta 7 \end{bmatrix}$$

$\underline{\Lambda}_x$ (LX = ID)

171

$$\begin{bmatrix} X1 \\ X2 \\ X3 \end{bmatrix} = \begin{bmatrix} \lambda 1 & 0 & 0 \\ 0 & \lambda 2 & 0 \\ 0 & 0 & \lambda 3 \end{bmatrix} \begin{bmatrix} \xi 1 \\ \xi 2 \\ \xi 3 \end{bmatrix} \quad \begin{bmatrix} \delta 1 \\ \delta 2 \\ \delta 3 \end{bmatrix} \quad - \quad \begin{bmatrix} X1 \\ X2 \\ X3 \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} \xi 1 \\ \xi 2 \\ \xi 3 \end{bmatrix} \quad \begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix}$$

172

Λ_Y (LY = FULL, FIXED)

$$
\begin{bmatrix} Y1 \\ Y2 \\ Y3 \\ Y4 \\ Y5 \\ Y6 \\ Y7 \\ Y8 \\ Y9 \\ Y10 \\ Y11 \\ Y12 \\ Y13 \\ Y14 \\ Y15 \\ Y16 \\ Y17 \\ Y18 \\ Y19 \\ Y20 \\ Y21 \\ Y22 \\ Y23 \\ Y24 \\ Y25 \\ Y26 \end{bmatrix} =
\begin{bmatrix}
\lambda 1 & 0 & 0 & 0 & 0 & 0 & 0 \\
\lambda 2 & 0 & 0 & 0 & 0 & 0 & 0 \\
\lambda 3 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & \lambda 4 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda 5 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda 6 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda 7 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & \lambda 8 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda 9 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda 10 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda 11 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda 12 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda 13 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda 14 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda 15 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & 0
\end{bmatrix}
\begin{bmatrix} \eta 1 \\ \\ \eta 2 \\ \\ \eta 3 \\ \\ \eta 4 \\ \\ \eta 5 \\ \\ \eta 6 \\ \\ \eta 7 \end{bmatrix}
\begin{bmatrix} \varepsilon 1 \\ \varepsilon 2 \\ \varepsilon 3 \\ \varepsilon 4 \\ \varepsilon 5 \\ \varepsilon 6 \\ \varepsilon 7 \\ \varepsilon 8 \\ \varepsilon 9 \\ \varepsilon 10 \\ \varepsilon 11 \\ \varepsilon 12 \\ \varepsilon 13 \\ \varepsilon 14 \\ \varepsilon 15 \\ \varepsilon 16 \\ \varepsilon 17 \\ \varepsilon 18 \\ \varepsilon 19 \\ \varepsilon 20 \\ \varepsilon 21 \\ \varepsilon 22 \\ \varepsilon 23 \\ \varepsilon 24 \\ \varepsilon 25 \\ \varepsilon 26 \end{bmatrix}
$$

$\underline{\Phi}$ (PH = SY, FIXED)

	$\xi 1$	$\xi 2$	$\xi 3$
$\xi 1$	Φ_1		
$\xi 2$	Φ_2	Φ_3	
$\xi 3$	Φ_4	Φ_5	Φ_6

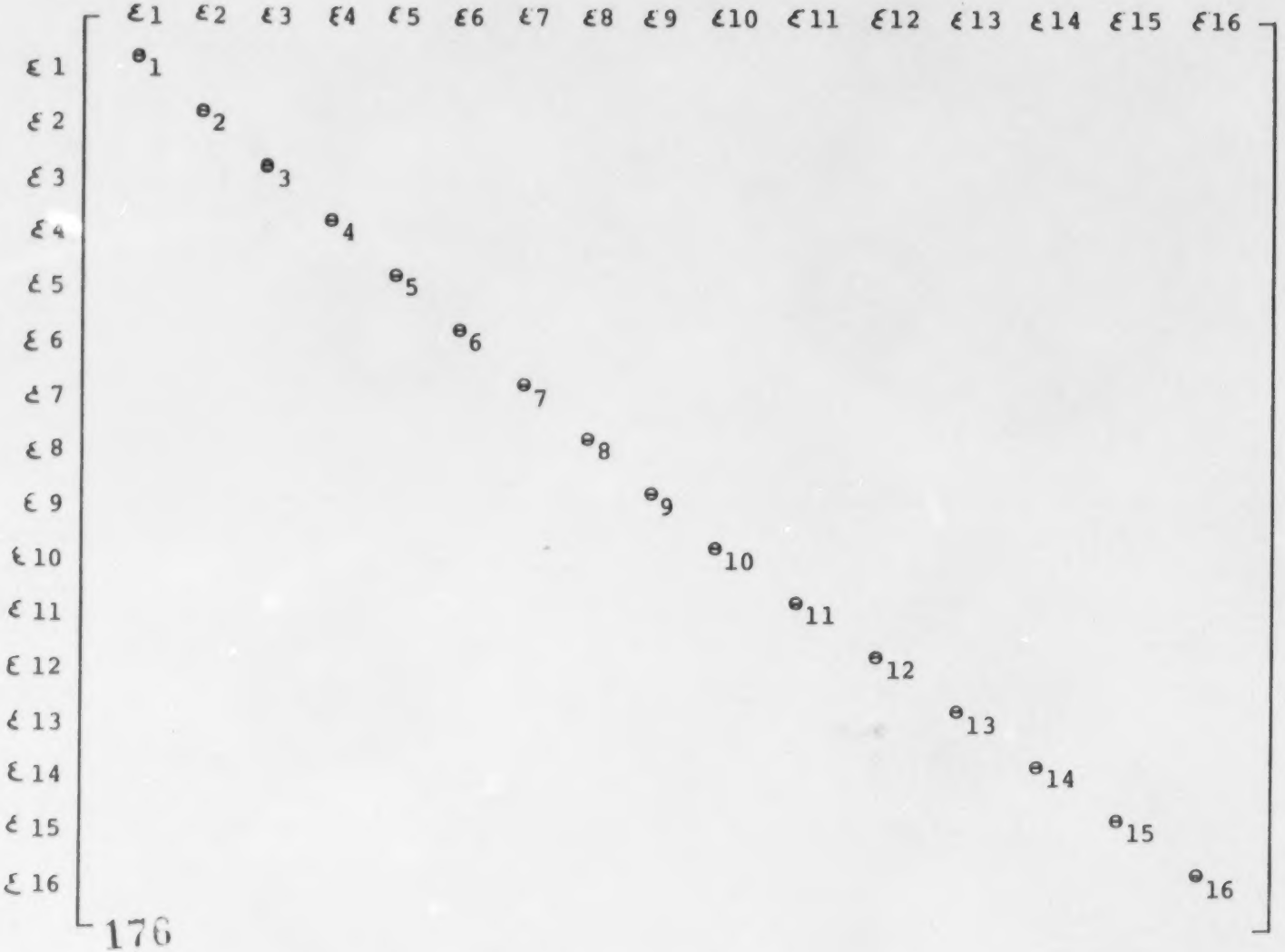
$\underline{\Psi}$ (PS = DI, FREE)

	$\zeta 1$	$\zeta 2$	$\zeta 3$	$\zeta 4$	$\zeta 5$	$\zeta 6$	$\zeta 7$
$\zeta 1$	$\Psi 1$						
$\zeta 2$		$\Psi 2$					
$\zeta 3$			$\Psi 3$				
$\zeta 4$				$\Psi 4$			
$\zeta 5$					$\Psi 5$		
$\zeta 6$						$\Psi 6$	
$\zeta 7$							$\Psi 7$

$\underline{\theta_\delta}$ (TE_δ = FIXED, ZERO)

$\theta_\delta = 0$

$\underset{\sim}{\theta}_{\xi}$ (TH_{ξ} = DI, FREE)



176

177

$\underset{\sim}{\theta}_{\underset{\sim}{\varepsilon}}$ (continued)

$$
\begin{array}{c}
 \\
\underset{\sim}{\varepsilon}_{17} \\
\underset{\sim}{\varepsilon}_{18} \\
\underset{\sim}{\varepsilon}_{19} \\
\underset{\sim}{\varepsilon}_{20} \\
\underset{\sim}{\varepsilon}_{21} \\
\underset{\sim}{\varepsilon}_{22} \\
\underset{\sim}{\varepsilon}_{23} \\
\underset{\sim}{\varepsilon}_{24} \\
\underset{\sim}{\varepsilon}_{25} \\
\underset{\sim}{\varepsilon}_{26}
\end{array}
\begin{bmatrix}
\underset{\sim}{\varepsilon}_{17} & \underset{\sim}{\varepsilon}_{18} & \underset{\sim}{\varepsilon}_{19} & \underset{\sim}{\varepsilon}_{20} & \underset{\sim}{\varepsilon}_{21} & \underset{\sim}{\varepsilon}_{22} & \underset{\sim}{\varepsilon}_{23} & \underset{\sim}{\varepsilon}_{24} & \underset{\sim}{\varepsilon}_{25} & \underset{\sim}{\varepsilon}_{26} \\
\theta_{17} & & & & & & & & & \\
 & \theta_{18} & & & & & & & & \\
 & & \theta_{19} & & & & & & & \\
 & & & \theta_{20} & & & & & & \\
 & & & & \theta_{21} & & & & & \\
 & & & & & \theta_{22} & & & & \\
 & & & & & & \theta_{23} & & & \\
 & & & & & & & \theta_{24} & & \\
 & & & & & & & & \theta_{25} & \\
 & & & & & & & & & \theta_{26}
\end{bmatrix}
$$

2. Expanded Model

$\underline{\beta}$ (BE = FULL, FIXED $\qquad$ $\underline{\Gamma}$ (GA = FULL, FIXED)

$$\begin{bmatrix} \eta 1 & \eta 2 & \eta 3 & \eta 4 & \eta 5 & \eta 6 & \eta 7 \\ 1 & 0 & \beta 1 & \beta 2 & 0 & 0 & 0 \\ 0 & 1 & \beta 3 & \beta 4 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & \beta 5 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & \beta 6 \\ 0 & 0 & 0 & 0 & 1 & \beta 7 & \beta 8 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & \beta 9 & 0 & 1 \end{bmatrix} \begin{bmatrix} \eta 1 \\ \eta 2 \\ \eta 3 \\ \eta 4 \\ \eta 5 \\ \eta 6 \\ \eta 7 \end{bmatrix} = \begin{bmatrix} \gamma 1 & \gamma 2 & 0 \\ \gamma 3 & \gamma 4 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & \gamma 5 \\ 0 & 0 & \gamma 6 \end{bmatrix} \begin{bmatrix} \xi 1 \\ \xi 2 \\ \xi 3 \end{bmatrix} \quad \begin{bmatrix} \zeta 1 \\ \zeta 2 \\ \zeta 3 \\ \zeta 4 \\ \zeta 5 \\ \zeta 6 \\ \zeta 7 \end{bmatrix}$$

$\underline{\Lambda}_x$ (LX = ID)

$$\begin{bmatrix} X1 \\ X2 \\ X3 \end{bmatrix} = \begin{bmatrix} \lambda 1 & 0 & 0 \\ 0 & \lambda 2 & 0 \\ 0 & 0 & \lambda 3 \end{bmatrix} \begin{bmatrix} \xi 1 \\ \xi 2 \\ \xi 3 \end{bmatrix} \quad \begin{bmatrix} \delta 1 \\ \delta 2 \\ \delta 3 \end{bmatrix} \text{—} \begin{bmatrix} X1 \\ X2 \\ X3 \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} \xi 1 \\ \xi 2 \\ \xi 3 \end{bmatrix} \quad \begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix}$$

180

181

$\underset{\sim}{\Lambda}_Y$ (LY = FULL, FIXED)

$$
\begin{bmatrix} Y1 \\ Y2 \\ Y3 \\ Y4 \\ Y5 \\ Y6 \\ Y7 \\ Y8 \\ Y9 \\ Y10 \\ Y11 \\ Y12 \\ Y13 \\ Y14 \\ Y15 \\ Y16 \\ Y17 \\ Y18 \\ Y19 \\ Y20 \\ Y21 \\ Y22 \\ Y23 \\ Y24 \\ Y25 \\ Y26 \end{bmatrix} =
\begin{bmatrix}
\lambda 1 & 0 & 0 & 0 & 0 & 0 & 0 \\
\lambda 2 & 0 & 0 & 0 & 0 & 0 & 0 \\
\lambda 3 & 0 & 0 & 0 & 0 & 0 & 0 \\
0 & \lambda 4 & 0 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda 5 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda 6 & 0 & 0 & 0 & 0 \\
0 & 0 & \lambda 7 & 0 & 0 & 0 & 0 \\
0 & 0 & 0 & \lambda 8 & 0 & 0 & 0 \\
0 & 0 & 0 & \lambda 9 & 0 & 0 & 0 \\
0 & 0 & 0 & \lambda 10 & 0 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda 11 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda 12 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda 13 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda 14 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda 15 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda 16 & 0 & 0 \\
0 & 0 & 0 & 0 & \lambda 17 & 0 & 0 \\
0 & 0 & 0 & 0 & 0 & \lambda 18 & 0 \\
0 & 0 & 0 & 0 & 0 & \lambda 19 & 0 \\
0 & 0 & 0 & 0 & 0 & \lambda 20 & 0 \\
0 & 0 & 0 & 0 & 0 & \lambda 21 & 0 \\
0 & 0 & 0 & 0 & 0 & 0 & \lambda 22 \\
0 & 0 & 0 & 0 & 0 & 0 & \lambda 23 \\
0 & 0 & 0 & 0 & 0 & 0 & \lambda 24 \\
0 & 0 & 0 & 0 & 0 & 0 & \lambda 25 \\
0 & 0 & 0 & 0 & 0 & 0 & \lambda 26
\end{bmatrix}
\begin{bmatrix} \eta 1 \\ \eta 2 \\ \eta 3 \\ \eta 4 \\ \eta 5 \\ \eta 6 \\ \eta 7 \end{bmatrix} +
\begin{bmatrix} \varepsilon 1 \\ \varepsilon 2 \\ \varepsilon 3 \\ \varepsilon 4 \\ \varepsilon 5 \\ \varepsilon 6 \\ \varepsilon 7 \\ \varepsilon 8 \\ \varepsilon 9 \\ \varepsilon 10 \\ \varepsilon 11 \\ \varepsilon 12 \\ \varepsilon 13 \\ \varepsilon 14 \\ \varepsilon 15 \\ \varepsilon 16 \\ \varepsilon 17 \\ \varepsilon 18 \\ \varepsilon 19 \\ \varepsilon 20 \\ \varepsilon 21 \\ \varepsilon 22 \\ \varepsilon 23 \\ \varepsilon 24 \\ \varepsilon 25 \\ \varepsilon 26 \end{bmatrix}
$$

$\underset{\sim}{\Phi}$ (PH = SY, FIXED)

$$\begin{array}{c} \\ \xi 1 \\ \xi 2 \\ \xi 3 \end{array} \begin{array}{c} \begin{array}{ccc} \xi 1 & \xi 2 & \xi 3 \end{array} \\ \begin{bmatrix} \Phi_1 & & \\ \Phi_2 & \Phi_3 & \\ \Phi_4 & \Phi_5 & \Phi_6 \end{bmatrix} \end{array}$$

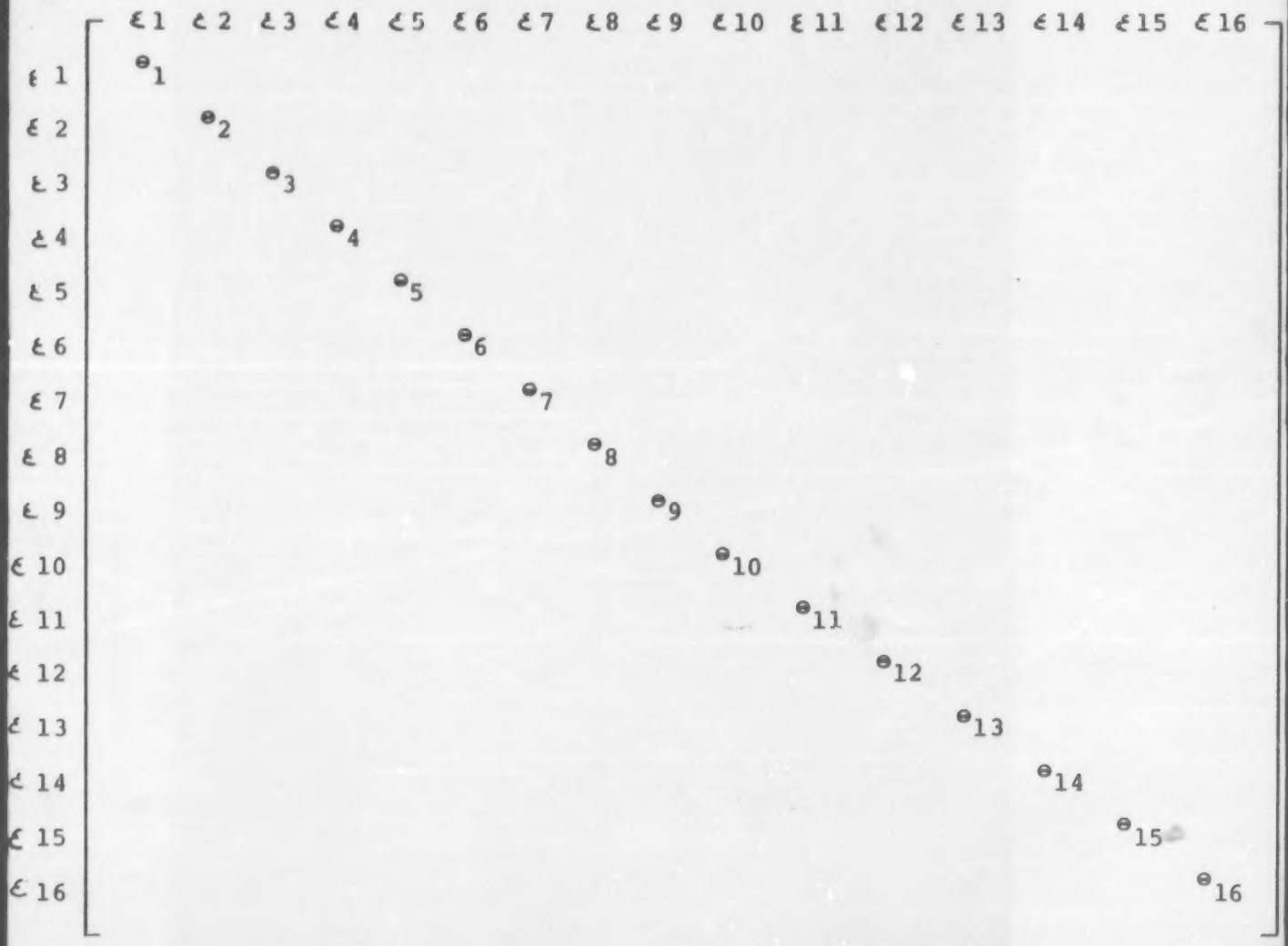
$\underset{\sim}{\Psi}$ (PS = DI, FREE)

$$\begin{array}{c} \\ 1 \\ 2 \\ 3 \\ 4 \\ 5 \\ 6 \\ 7 \end{array} \begin{array}{c} \begin{array}{ccccccc} 1 & 2 & 3 & 4 & 5 & 6 & 7 \end{array} \\ \begin{bmatrix} \Psi 1 & & & & & & \\ & \Psi 2 & & & & & \\ & & \Psi 3 & & & & \\ & & & \Psi 4 & & & \\ & & & & \Psi 5 & & \\ & & & & & \Psi 6 & \\ & & & & & & \Psi 7 \end{bmatrix} \end{array}$$

$\underset{\sim}{\theta}_{\delta}$ (TH_{δ} = FIXED, ZERO)

$\theta_{\delta} = 0$

$\underset{\sim}{\theta}_{\varepsilon}$ (TH_{ε} = DI, FREE)



$\underset{\sim}{\theta}_{\varepsilon}$ (continued)

	ε 17	ε 18	ε 19	ε 20	ε 21	ε 22	ε 23	ε 24	ε 25	ε 26
ε 17	Θ_{17}									
ε 18		Θ_{18}								
ε 19			Θ_{19}							
ε 20				Θ_{20}						
ε 21					Θ_{21}					
ε 22						Θ_{22}				
ε 23							Θ_{23}			
ε 24								Θ_{24}		
ε 25									Θ_{25}	
ε 26										Θ_{26}

Appendix H

CORRELATION MATRICES FOR THE FACTOR ANALYSES OF THE PARENT QUESTIONNAIRES

TABLE H.1

Parent Questionnaire Variables Code

1	Sex
2	Integrative Orientation
3	Ethnocentrism
4	Instrumental Orientation
5	Future Orientation
6	Attitudes Towards French Canadians
7	Interest in Foreign Languages
8	Desire to Learn French
9	Parental Encouragement
10	Motivational Intensity

TABLE H.2

Correlation matrix for the Factor Analysis of the Parent Questionnaire

	1	2	3	4	5	6	7	8	9	10
1	1.00									
2	.18	1.00								
3	- .01	.04	1.00							
4	.10	.52	- .26	1.00						
5	.28	.47	- .16	.47	1.00					
6	- .01	.60	.29	.25	.22	1.00				
7	.16	.51	.06	.18	.44	.54	1.00			
8	.13	.40	.01	.10	.30	.52	.63	1.00		
9	.36	.45	- .15	.37	.55	.32	.50	.51	1.00	
10	.18	.30	- .15	.20	.22	.28	.33	.48	.53	1.00

TABLE H.3

Correlation matrix for the Factor Analysis of the fathers' questionnaires only

	2	3	4	5	6	7	8	9	10
2	1.00								
3	.00	1.00							
4	.62	- .28	1.00						
5	.51	- .15	.59	1.00					
6	.65	.26	.40	.28	1.00				
7	.54	.07	.26	.53	.62	1.00			
8	.53	.05	.27	.39	.57	.69	1.00		
9	.52	- .17	.48	.58	.46	.55	.54	1.00	
10	.41	- .06	.27	.14	.38	.32	.50	.53	1.00

TABLE H.4

Correlation matrix for the Factor Analysis of the mothers' questionnaires only

	2	3	4	5	6	7	8	9	10
2	1.00								
3	.10	1.00							
4	.37	- .23	1.00						
5	.33	- .19	.27	1.00					
6	.55	.33	.06	.16	1.00				
7	.43	.05	.06	.26	.45	1.00			
8	.21	- .02	- .11	.14	.49	.57	1.00		
9	.23	- .17	.17	.32	.12	.38	.48	1.00	
10	.13	- .23	.09	.25	.18	.31	.44	.51	1.00

Appendix I

CORRELATION MATRIX FOR THE LISREL IV ANALYSES

	Y1	Y2	Y3	Y4	Y5	Y6
Y1	1.00					
Y2	.29	1.00				
Y3	.18	.23	1.00			
Y4	.06	.13	.07	1.00		
Y5	.09	.30	.08	.28	1.00	
Y6	- .02	.15	- .05	.35	.59	1.00
Y7	.11	.25	.08	.31	.62	.80
Y8	.26	.14	.08	.21	.02	.42
Y9	.10	.23	.03	.27	.67	.64
Y10	.18	.19	.02	.31	.13	.64
Y11	.13	.13	.06	.23	.18	.64
Y12	- .01	.22	.03	.14	.92	.35
Y13	.09	.29	.14	.32	.67	.74
Y14	.06	.09	- .09	.44	.21	.59
Y15	.07	.26	.16	.33	.55	.72
Y16	.14	.16	- .07	.40	.31	.75
Y17	.05	.30	.17	.45	.55	.74
Y18	.02	- .16	- .09	.03	- .04	.08
Y19	.10	- .09	.05	- .15	- .01	.00
Y20	.18	.06	.10	- .17	.10	- .04

	Y1	Y3	Y3	Y4	Y5	Y6
Y21	.07	- .05	- .06	- .17	.03	.07
Y22	.13	.08	.03	- .08	.04	.01
Y23	.00	.01	- .06	- .15	.03	- .07
Y24	- .03	- .09	- .21	.07	.03	.19
Y25	- .04	- .02	.04	- .02	.02	.01
Y26	.06	- .13	- .07	- .01	- .08	.04
X1	.10	.04	.01	.00	- .53	- .09
X2	.19	.38	.05	.21	.08	.28
X3	- .04	.14	.12	.11	.61	.12

	Y7	Y8	Y9	Y10	Y11	Y12
Y7	1.00					
Y8	.34	1.00				
Y9	.71	.38	1.00			
Y10	.61	.66	.43	1.00		
Y11	.73	.46	.45	.61	1.00	
Y12	.37	- .19	.52	- .15	- .10	1.00
Y13	.79	.33	.71	.50	.68	.48
Y14	.55	.54	.35	.60	.60	- .05
Y15	.80	.37	.68	.55	.62	.35
Y16	.74	.51	.57	.73	.75	.01
Y17	.75	.49	.58	.65	.58	.32

	Y7	Y8	Y9	Y10	Y11	Y12
Y18	.03	.16	- .01	.13	.16	- .06
Y19	- .02	.32	.11	.17	.04	- .05
Y20	- .03	.22	.15	.02	.03	.07
Y21	.05	.10	.05	.10	.11	.01
Y22	- .01	.19	.04	.02	.14	.01
Y23	- .08	.19	.13	- .03	- .06	.05
Y24	.12	.03	.02	.14	.14	.01
Y25	- .04	.31	.13	.05	- .05	.02
Y26	.02	.19	.05	.16	.14	- .11
X1	- .18	.23	- .23	.13	.19	- .65
X2	.26	.18	.19	.33	.27	- .04
X3	.14	- .22	.38	- .33	- .14	.68

	Y13	Y14	Y15	Y16	Y17	Y18
Y13	1.00					
Y14	.43	1.00				
Y15	.85	.45	1.00			
Y16	.67	.72	.73	1.00		
Y17	.75	.59	.75	.70	1.00	
Y18	.10	.00	- .07	.06	.07	1.00
Y19	.05	- .05	.02	.12	.10	.53
Y20	.06	- .07	.05	.06	.14	.13

	Y13	Y14	Y15	Y16	Y17	Y18
Y21	.11	- .08	- .04	.04	.08	.82
Y22	.12	.00	.04	.10	.04	.37
Y23	- .07	- .09	.04	- .01	.08	- .25
Y24	.16	.03	.02	.10	.04	.79
Y25	- .01	- .04	.08	.06	.20	.17
Y26	.02	- .04	- .03	.07	.08	.74
X1	- .24	.22	- .17	.19	- .09	- .13
X2	.20	.29	.24	.29	.32	- .15
X3	.33	- .12	.17	- .11	.17	- .10

	Y19	Y20	Y21	Y22	Y23	Y24
Y19	1.00					
Y20	.70	1.00				
Y21	.66	.42	1.00			
Y22	.41	.50	.43	1.00		
Y23	.41	.60	.11	.00	1.00	
Y24	.28	- .13	.68	.22	- .29	1.00
Y25	.67	.67	.38	.25	.68	.01
Y26	.63	.41	.76	.38	.15	.59
X1	.01	- .01	- .16	.05	.04	- .07
X2	- .13	.02	- .05	.18	- .06	- .04
X3	.02	.18	.03	.16	.07	- .12

	Y25	Y26	X1	X2	X3
Y25	1.00				
Y26	.52	1.00			
X1	.01	- .03	1.00		
X2	- .02	- .06	.22	1.00	
X3	.01	- .14	- .36	- .05	1.00

Appendix J

LATENT CONSTRUCTS AND THEIR CORRESPONDING MEASURED VARIABLES

Latent Constructs		Measured Variables	
Symbol	Label	Symbol	Label
(ξ1)	I.Q.	(X1)	Canadian Lorge-Thorndike Intelligence Test
(ξ2)	Language Aptitude	(X2)	(a) Modern Language Aptitude Test (grades 9 and 10)
			(b) Elementary Modern Language Aptitude (grades 7 and 8)
(ξ3)	Socio-economic Status (SES)	(X3)	Statistics Canada Census Information
(η1)	Linguistic Outcome	(Y1)	I.E.A. Reading Test, Population IVS
		(Y2)	O.I.S.E. Test de Mots à Trouver, Niveau 7
		(Y3)	O.I.S.E. Test de Compréhension Aurale, Niveau 7
(η2)	Non-Linguistic Outcome	(Y4)	Opportunity to Use French
(η3)	Motivation	(Y5)	Student Motivational Intensity
		(Y6)	Student Desire to Learn French
		(Y7)	Student Attitudes Towards Learning French

Latent Constructs		Measured Variables	
Symbol	Label	Symbol	Label
(η4)	Self-Confidence with French	(Y8)	Student French Classroom Anxiety
		(Y9)	Student French Use Anxiety
		(Y10)	Student Self-Ratings in French
(η5)	Attitudes	(Y11)	Student Attitudes Towards French-Canadians
		(Y12)	Student Future Orientation
		(Y13)	Student Instrumental Orientation
		(Y14)	Student Ethnocentrism
		(Y15)	Student Integrative Orientation
		(Y16)	Student Interest in Foreign Languages
		(Y17)	Student Perceived Parental Encouragement
(η6)	Passive Parental Influence	(Y18)	Parental Desire to Learn French
		(Y19)	Parental Interest in Foreign Languages
		(Y20)	Parental Attitudes Towards French-Canadians
		(Y21)	Parental Integrative Orientation

Latent Constructs		Measured Variables	
Symbol	Label	Symbol	Label
(ξ7)	Active Parental Influence	(Y22)	Parental Ethnocentrism
		(Y23)	Parental Instrumental Orientation
		(Y24)	Parental Future Orientation
		(Y25)	Parental Encouragement
		(Y26)	Parental Motivational Intensity

Appendix K

FIRST ORDER DERIVATIVES

TABLE K.1

First Order Derivatives of the LISREL IV Analysis of the Expanded Model

	Structural Equation Model					
	$\eta 1$	$\eta 2$	$\eta 3$	$\eta 4$	$\eta 5$	$\eta 6$
Equation 1	.00	-.01	.00	.00	.01	-.08
Equation 2	-.01	.00	.00	.00	.01	-.11
Equation 3	-.09	-.29	.00	.02	.00	-.07
Equation 4	.25	.33	.65	.00	.53	-.12
Equation 5	.14	.02	.00	.76	.00	.00
Equation 6	-.07	-.12	.00	-.10	.00	.00
Equation 7	-.25	.46	.01	-1.12	.01	.00

	$\eta 7$	$\xi 1$	$\xi 2$	$\xi 3$
Equation 1	-.08	.00	.00	-.15
Equation 2	-.14	.00	.00	-.09
Equation 3	-.10	.63	-.04	-.28
Equation 4	.00	-.19	-.36	.24
Equation 5	.00	.11	-.40	.00
Equation 6	.00	.12	.08	.00
Equation 7	.00	-.41	.37	.00

TABLE K.1 (continued)

Measurement Model

	η_1	η_2	η_3	η_4	η_5	η_6	η_7
Y1	.00	-.01	.03	-.12	.02	-.09	-.09
Y2	.00	.02	-.01	.04	-.01	.10	.10
Y3	.00	-.03	.01	.02	-.00	.05	.04
Y4	.01	.00	.00	-.00	-.01	.11	.14
Y5	-.12	-.03	.00	.35	.01	.04	.14
Y6	.24	-.03	.00	-.25	-.00	-.10	-.09
Y7	-.06	.35	.00	-.03	.06	.09	.03
Y8	-.02	.01	.10	.00	-.41	-.06	-.05
Y9	-.15	-.18	-.53	.00	-.35	.04	.07
Y10	-.15	-.24	-.44	.00	.00	.14	-.01
Y11	.07	.15	.00	-.22	.00	-.16	-.23
Y12	-.06	.02	-.04	.32	.00	.04	.12
Y13	-.12	.18	.01	.24	.00	-.24	-.12
Y14	.06	-.31	-.01	-.28	.00	.13	.07
Y15	-.06	.14	.02	.08	.00	.36	.34
Y16	.09	-.21	.00	-.45	.00	-.04	-.13
Y17	-.19	-.39	-.00	-.30	.00	-.14	-.12
Y18	.26	-.39	-.01	-.04	.00	.00	-.01
Y19	.03	.19	.03	-.20	.00	.00	.01

TABLE K.1 (continued)

	η_1	η_2	η_3	η_4	η_5	η_6	η_7
Y20	-.10	.16	.00	-.04	-.02	.00	.03
Y21	-.19	.70	-.01	.20	.01	.00	-.01
Y22	-.12	.05	.01	.02	-.00	-.04	.00
Y23	.01	.14	.05	-.04	.03	-.02	.00
Y24	.08	-.26	-.06	.12	-.02	.04	.00
Y25	-.00	-.02	.03	-.06	.01	-.03	.00
Y26	.14	-.18	.21	.07	.17	-.04	.00

TABLE K.2

First Order Derivatives of the LISREL IV Analysis of the Modification 1 Model

Structural Equation Model

	η_1	η_2	η_3	η_4	η_5	η_6
Equation 1	.00	-.01	.00	.00	.01	-.08
Equation 2	.03	.00	.00	.04	.01	-.11
Equation 3	-.08	-.32	.00	.03	.00	-.08
Equation 4	.26	.38	.65	.00	.54	-.12
Equation 5	.13	-.05	.00	.76	.00	.00
Equation 6	-.07	-.11	.00	-.10	.00	.00
Equation 7	-.23	.56	.01	-1.12	.01	.00

	η_7	ξ_1	ξ_2	ξ_3
Equation 1	-.07	.00	.00	-.15
Equation 2	-.14	-.07	-.12	-.04
Equation 3	-.11	.62	-.07	-.28
Equation 4	.00	-.19	-.36	.24
Equation 5	.00	.11	-.40	.00
Equation 6	.00	.12	.08	.00
Equation 7	.00	-.41	.37	.00

TABLE K.2 (continued)

	Measurement Model						
	η_1	η_2	η_3	η_4	η_5	η_6	η_7
Y1	.00	-.01	.03	-.12	.02	-.09	-.09
Y2	.00	.02	-.01	.04	-.01	.10	.10
Y3	.00	-.03	.01	.02	-.00	.05	.04
Y4	-.03	.00	-.00	-.04	-.01	.11	.14
Y5	-.12	-.03	.00	.35	.01	.04	.14
Y6	.25	-.02	.00	-.25	-.00	-.10	-.09
Y7	-.05	.36	.00	-.03	-.00	.08	.03
Y8	-.02	-.01	.10	.00	.06	-.06	-.05
Y9	-.16	-.18	-.52	.00	-.41	.04	.07
Y10	-.15	-.27	-.44	.00	-.35	.15	-.00
Y11	.07	.16	.00	-.22	.00	-.16	-.23
Y12	-.06	.02	-.04	.32	.00	.04	.12
Y13	-.12	.19	.01	.24	.00	-.24	-.12
Y14	.06	-.30	-.01	-.27	.00	.13	.07
Y15	-.06	.15	.02	.08	.00	.36	.34
Y16	.10	-.20	-.00	-.45	.00	-.04	-.13
Y17	-.19	-.38	-.00	-.29	.00	-.14	-.12
Y18	.26	-.39	-.01	-.03	-.00	.00	-.01
Y19	.03	.19	-.03	-.20	.00	.00	.01

TABLE K.2 (continued)

	η_1	η_2	η_3	η_4	η_5	η_6	η_7
Y20	-.10	.16	.00	-.04	-.02	.00	.03
Y21	-.19	.70	-.00	.19	.01	.00	-.01
Y22	-.12	.05	.01	.02	-.00	-.04	.00
Y23	.01	.14	.05	-.04	.03	-.02	.00
Y24	.08	-.26	-.06	.12	-.02	.04	.00
Y25	-.00	-.02	.03	-.06	.01	-.03	.00
Y26	.14	-.18	.21	.07	.17	-.04	.00

TABLE K.3

First Order Derivatives of the LISREL IV Analysis of the Modification 2 Model

Structural Equation Model

	$\eta 1$	$\eta 2$	$\eta 3$	$\eta 4$	$\eta 5$	$\eta 6$
Equation 1	.00	-.01	.00	.01	.00	-.08
Equation 2	.04	.00	.00	.04	.02	-.11
Equation 3	.01	-.31	.00	.08	.00	-.18
Equation 4	.26	.38	.64	.00	.57	-.12
Equation 5	.14	-.03	.00	.75	.00	.00
Equation 6	-.07	-.10	.01	-.10	.00	.00
Equation 7	-.23	.54	-.02	-1.05	.02	.00

	$\eta 7$	$\xi 1$	$\xi 2$	$\xi 3$
Equation 1	-.07	-.01	.00	-.14
Equation 2	-.14	-.11	-.13	-.04
Equation 3	-.20	.00	-.23	-.19
Equation 4	.00	-.19	-.36	.24
Equation 5	.00	.03	-.41	.02
Equation 6	.00	.12	.08	.00
Equation 7	.00	-.30	.34	.00

TABLE K.3 (continued)

	Measurement Model						
	η_1	η_2	η_3	η_4	η_5	η_6	η_7
Y1	.00	-.01	.03	-.12	.01	-.09	-.10
Y2	.00	.02	-.01	.04	-.01	.10	.10
Y3	.00	-.03	.01	.02	.00	.05	.04
Y4	-.04	.00	.00	-.04	-.02	.11	.14
Y5	-.12	-.01	.00	.38	.09	.05	.16
Y6	.20	-.03	.00	-.28	-.04	-.06	-.07
Y7	-.09	.35	.00	-.08	-.02	.14	.07
Y8	-.02	-.01	.11	.00	.05	-.05	-.05
Y9	-.16	-.18	-.54	.00	-.41	.04	.07
Y10	-.15	-.27	-.43	.00	-.38	.15	-.00
Y11	.10	.20	.08	-.19	.00	-.18	-.25
Y12	-.07	-.00	-.11	.29	.00	.03	.11
Y13	-.12	.15	-.10	.22	.00	-.23	-.12
Y14	.08	-.30	.06	-.25	.00	.14	.08
Y15	-.06	.13	-.06	.09	.00	.30	.30
Y16	.14	-.18	.11	-.42	.00	-.06	-.15
Y17	-.18	-.36	-.02	-.25	.00	-.15	-.12
Y18	.26	-.39	-.02	-.03	-.00	.00	-.01
Y19	.03	.19	.03	-.20	-.00	.00	.01

TABLE K.3 (continued)

	η_1	η_2	η_3	η_4	η_5	η_6	η_7
Y20	-.10	.16	-.00	-.04	-.02	.00	.03
Y21	-.20	.70	-.03	.19	.03	.00	-.01
Y22	-.12	.05	.02	.02	-.00	-.04	.00
Y23	.01	.14	.04	-.04	.03	-.02	.00
Y24	.08	-.27	-.04	.12	-.02	.04	.00
Y25	-.00	-.03	.03	-.06	.02	-.03	.00
Y26	.14	-.18	.22	.07	.17	-.04	.00

TABLE K.4

First Order Derivatives of the LISREL IV Analysis of the Modification 3 Model

Structural Equation Model

	$\eta 1$	$\eta 2$	$\eta 3$	$\eta 4$	$\eta 5$	$\eta 6$
Equation 1	.00	-.01	.00	-.02	.00	-.07
Equation 2	.03	.00	.00	.01	.02	-.13
Equation 3	-.03	-.36	.00	-.12	.00	-.20
Equation 4	.10	.00	-.10	.00	-.07	-.03
Equation 5	-.02	-.16	.03	.00	.00	.00
Equation 6	-.07	-.12	-.01	-.03	-.02	.00
Equation 7	.02	.85	-.05	.05	.03	.00

	$\eta 7$	$\xi 1$	$\xi 2$	$\xi 3$
Equation 1	-.09	-.01	.00	-.14
Equation 2	-.13	-.11	-.12	-.04
Equation 3	-.21	.00	-.18	-.22
Equation 4	.00	-.13	-.37	.25
Equation 5	.00	.16	-.21	.00
Equation 6	.00	.12	.08	.00
Equation 7	.00	-.58	.32	.00

TABLE K.4 (continued)

Measurement Model

	η_1	η_2	η_3	η_4	η_5	η_6	η_7
Y1	.00	-.01	.02	-.08	.01	-.10	-.09
Y2	.00	.02	-.01	.05	-.01	.10	.11
Y3	.00	-.03	.01	.04	.00	.04	.05
Y4	-.03	.00	.00	-.01	-.02	.13	.13
Y5	-.12	-.01	.00	.44	.10	.05	.15
Y6	.22	-.00	.00	-.18	-.05	-.05	-.06
Y7	-.08	.37	.00	-.04	-.02	.14	.08
Y8	-.01	.02	.17	.00	.10	-.11	-.10
Y9	-.13	-.14	-.41	.00	-.29	.03	.10
Y10	-.03	-.05	.24	.00	.17	.09	.01
Y11	.10	.21	.08	-.17	.00	-.18	.24
Y12	-.07	-.01	-.12	.29	.00	.03	.10
Y13	-.10	.15	-.12	.30	.00	-.22	-.11
Y14	.10	-.29	.07	-.17	.00	.15	.10
Y15	-.05	.14	-.07	.15	.00	.28	.26
Y16	.17	-.15	.13	-.34	.00	-.06	-.15
Y17	-.17	-.34	-.03	-.06	.00	-.17	-.12
Y18	.26	-.39	-.00	-.05	.01	.00	-.05
Y19	.03	.13	.02	-.11	-.02	.00	.02

TABLE K.4 (continued)

	η_1	η_2	η_3	η_4	η_5	η_6	η_7
Y20	-.10	.16	-.01	.02	-.02	.00	.03
Y21	-.18	.69	.01	.20	.06	.00	.01
Y22	-.14	.05	-.02	.03	-.03	-.04	.00
Y23	.00	.14	.04	.01	.02	-.02	.00
Y24	.05	-.28	-.12	-.05	-.09	.03	.00
Y25	-.02	-.03	-.00	-.02	-.02	-.02	.00
Y26	.10	-.25	.08	-.01	.05	-.00	.00

Appendix L

STANDARDIZED SOLUTIONS

TABLE L.1

Standardized Solution of the LISREL IV Analysis of the Expanded Model

	Structural Equation Model					
	$\eta 1$	$\eta 2$	$\eta 3$	$\eta 4$	$\eta 5$	$\eta 6$
Equation 1	1.00	.00	.20	.01	.00	.00
Equation 2	.00	1.00	.35	.05	.00	.00
Equation 3	.00	.00	1.00	.00	.98	.00
Equation 4	.00	.00	.00	1.00	.00	.00
Equation 5	.00	.00	.00	.00	1.00	1.49
Equation 6	.00	.00	.00	.00	.00	1.00
Equation 7	.00	.00	.00	.00	.00	1.03

	$\eta 7$	$\xi 1$	$\xi 2$	$\xi 3$
Equation 1	.00	-.00	.41	.00
Equation 2	.00	.03	.10	.00
Equation 3	.00	.00	.00	.00
Equation 4	.28	.00	.00	.00
Equation 5	-1.39	.00	.00	.00
Equation 6	.00	.00	.00	-.00
Equation 7	1.00	.00	.00	-.14

TABLE L.1 (continued)

Measurement Model

Latent Construct	Measured Variable	Standardized Solution Coefficient
Linguistic Outcome	IEA Reading Test Population IVS	.35
	OISE Test de Mots à Trouver, Niveau 7	.81
	OISE Test de Compréhension Aurale, Niveau 7	.27
Non-Linguistic Outcome	Opportunity to Use French	1.00
Motivation	Student Motivational Intensity	.65
	Student Desire to Learn French	.87
	Student Attitudes Towards Learning French	.92
Self-Confidence With French	Student French Classroom Anxiety	.77
	Student French Use Anxiety	.49
	Student Self-Ratings in French	.86
Attitudes	Student Attitudes Towards French-Canadians	.74
	Student Future Orientation	.37
	Student Instrumental Orientation	.90

TABLE L.1 (continued)

Latent Construct	Measured Variable	Standardized Solution Coefficient
Attitudes (continued)	Student Ethnocentrism	.61
	Student Integrative Orientation	.89
	Student Interest in Foreign Languages	.82
	Student Perceived Parental Encouragement	.85
Passive Parental Influence	Parental Desire to Learn French	.87
	Parental Interest in Foreign Languages	.71
	Parental Attitudes Towards French-Canadians	.42
	Parental Integrative Orientation	.93
Active Parental Influence	Parental Ethnocentrism	.42
	Parental Instrumental Orientation	.06
	Parental Future Orientation	.71
	Parental Encouragement	.40
	Parental Motivational Intensity	.81

TABLE L.2

Standardized Solution of the LISREL IV Analysis of the Modification 1 Model

Structural Equation Model

	η_1	η_2	η_3	η_4	η_5	η_6
Equation 1	1.00	.00	.21	.00	.00	.00
Equation 2	.00	1.00	.40	.00	.00	.00
Equation 3	.00	.00	1.00	.00	.98	.00
Equation 4	.00	.00	.00	1.00	.00	.00
Equation 5	.00	.00	.00	.00	1.00	1.48
Equation 6	.00	.00	.00	.00	.00	1.00
Equation 7	.00	.00	.00	.00	.00	1.03

	η_7	ξ_1	ξ_2	ξ_3
Equation 1	.00	.00	.41	.00
Equation 2	.00	.00	.00	.00
Equation 3	.00	.00	.00	.00
Equation 4	.29	.00	.00	.00
Equation 5	-1.38	.00	.00	.00
Equation 6	.00	.00	.00	-.00
Equation 7	1.00	.00	.00	-.14

TABLE L.2 (continued)

Measurement Model

Latent Construct	Measured Variable	Standardized Solution Coefficient
Linguistic Outcome	IEA Reading Test Population IVS	.35
	OISE Test de Mots à Trouver, Niveau 7	.81
	OISE Test de Compréhension Aurale, Niveau 7	.27
Non-Linguistic Outcome	Opportunity to Use French	1.00
Motivation	Student Motivational Intensity	.65
	Student Desire to Learn French	.87
	Student Attitudes Towards Learning French	.92
Self-Confidence With French	Student French Classroom Anxiety	.76
	Student French Use Anxiety	.49
	Student Self-Ratings in French	.86
Attitudes	Student Attitudes Towards French-Canadians	.74
	Student Future Orientation	.37
	Student Instrumental Orientation	.90

TABLE L.2 (continued)

Latent Construct	Measured Variable	Standardized Solution Coefficient
Attitudes (continued)	Student Ethnocentrism	.61
	Student Integrative Orientation	.89
	Student Interest in Foreign Languages	.82
	Student Perceived Parental Encouragement	.85
Passive Parental Influence	Parental Desire to Learn French	.87
	Parental Interest in Foreign Languages	.71
	Parental Attitudes Towards French-Canadians	.42
	Parental Integrative Orientation	.93
Active Parental Influence	Parental Ethnocentrism	.42
	Parental Instrumental Orientation	.06
	Parental Future Orientation	.71
	Parental Encouragement	.40
	Parental Motivational Intensity	.81

TABLE L.3

Standardized Solution for the LISREL IV Analysis of the Modification 2 Model

Structural Equation Model

	$\eta 1$	$\eta 2$	$\eta 3$	$\eta 4$	$\eta 5$	$\eta 6$
Equation 1	1.00	.00	.20	.00	.00	.00
Equation 2	.00	1.00	.40	.00	.00	.00
Equation 3	.00	.00	1.00	.00	.97	.00
Equation 4	.00	.00	.00	1.00	.00	.00
Equation 5	.00	.00	.00	.00	1.00	1.36
Equation 6	.00	.00	.00	.00	.00	1.00
Equation 7	.00	.00	.00	.00	.00	1.03

	$\eta 7$	$\xi 1$	$\xi 2$	$\xi 3$
Equation 1	.00	.00	.41	.00
Equation 2	.00	.00	.00	.00
Equation 3	.00	-.15	.00	.00
Equation 4	.29	.00	.00	.00
Equation 5	1.27	.00	.00	.00
Equation 6	.00	.00	.00	-.00
Equation 7	1.00	.00	.00	-.13

TABLE L.3 (continued)

Measurement Model

Latent Construct	Measured Variable	Standardized Solution Coefficient
Linguistic Outcome	IEA Reading Test Population IVS	.35
	OISE Test de Mots à Trouver, Niveau 7	.81
	OISE Test de Compréhension Aurale, Niveau 7	.26
Non-Linguistic Outcome	Opportunity to Use French	1.00
Motivation	Student Motivational Intensity	.68
	Student Desire to Learn French	.86
	Student Attitudes Towards Learning French	.92
Self-Confidence With French	Student French Classroom Anxiety	.76
	Student French Use Anxiety	.49
	Student Self-Ratings in French	.86
Attitudes	Student Attitudes Towards French-Canadians	.76
	Student Future Orientation	.33
	Student Instrumental Orientation	.88

TABLE L.3 (continued)

Latent Construct	Measured Variable	Standardized Solution Coefficient
Attitudes (continued)	Student Ethnocentrism	.64
	Student Integrative Orientation	.87
	Student Interest in Foreign Languages	.84
	Student Perveived Parental Encouragement	.85
Passive Parental Influence	Parental Desire to Learn French	.87
	Parental Interest in Foreign Languages	.71
	Parental Attitudes Towards French-Canadians	.42
	Parental Integrative Orientation	.93
Active Parental Influence	Parental Ethnocentrism	.42
	Parental Instrumental Orientation	.06
	Parental Future Orientation	.71
	Parental Encouragement	.40
	Parental Motivational Intensity	.81

TABLE L.4

Standardized Solution for the LISREL IV Analysis of the Modification 3 Model

Structural Equation Model

	η_1	η_2	η_3	η_4	η_5	η_6
Equation 1	1.00	.00	.22	.00	.00	.00
Equation 2	.00	1.00	.43	.00	.00	.00
Equation 3	.00	.00	1.00	.00	.96	.00
Equation 4	.00	.00	.00	1.00	.00	.00
Equation 5	.00	.00	.00	.87	1.00	2.41
Equation 6	.00	.00	.00	.00	.00	1.00
Equation 7	.00	.00	.00	.00	.00	1.00

	η_7	ξ_1	ξ_2	ξ_3
Equation 1	.00	.00	.41	.00
Equation 2	.00	.00	.00	.00
Equation 3	.00	.16	.00	.00
Equation 4	.20	.00	.00	.00
Equation 5	2.51	.00	.00	.00
Equation 6	.00	.00	.00	.00
Equation 7	1.00	.00	.00	-.14

TABLE L.4 (continued)

Measurement Model

Latent Construct	Measured Variable	Standardized Solution Coefficient
Linguistic Outcome	IEA Reading Test Population IVS	.35
	OISE Test de Mots à Trouver, Niveau 7	.81
	OISE Test de Compréhension Aurale, Niveau 7	.27
Non-Linguistic Outcome	Opportunity to Use French	1.00
Motivation	Student Motivational Intensity	.72
	Student Desire to Learn French	.93
	Student Attitudes Towards Learning French	.98
Self-Confidence With French	Student French Classroom Anxiety	.68
	Student French Use Anxiety	.55
	Student Self-Ratings in French	.91
Attitudes	Student Attitudes Towards French-Canadians	.81
	Student Future Orientation	.33
	Student Instrumental Orientation	.93

TABLE L.4 (continued)

Latent Construct	Measured Variable	Standardized Solution Coefficient
Attitudes (continued)	Student Ethnocentrism	.70
	Student Integrative Orientation	.92
	Student Interest in Foreign Languages	.91
	Student Perceived Parental Encouragement	.91
Passive Parental Influence	Parental Desire to Learn French	.86
	Parental Interest in Foreign Languages	.72
	Parental Attitudes Towards French-Canadians	.43
	Parental Integrative Orientation	.93
Active Parental Influence	Parental Ethnocentrism	.43
	Parental Instrumental Orientation	.07
	Parental Future Orientation	.72
	Parental Encouragement	.42
	Parental Motivational Intensity	.85

Appendix M

t-VALUES

TABLE M.1

t-Values of the LISREL IV Analysis of the Expanded Model

	Structural Equation Model					
	η_1	η_2	η_3	η_4	η_5	η_6
Equation 1	.00	.00	1.43	.09	.00	.00
Equation 2	.00	.00	2.94**	.39	.00	.00
Equation 3	.00	.00	.00	.00	7.75**	.00
Equation 4	.00	.00	.00	.00	.00	.00
Equation 5	.00	.00	.00	.00	.00	1.41
Equation 6	.00	.00	.00	.00	.00	.00
Equation 7	.00	.00	.00	.00	.00	10.12**

	η_7	ξ_1	ξ_2	ξ_3
Equation 1	.00	-.01	2.92**	.00
Equation 2	.00	.25	.83	.00
Equation 3	.00	.00	.00	.00
Equation 4	2.11*	.00	.00	.00
Equation 5	-1.35	.00	.00	.00
Equation 6	.00	.00	.00	-.03
Equation 7	.00	.00	.00	-2.16*

TABLE M.1 (continued)

Measurement Model

Latent Construct	Measured Variable	Standardized Solution Coefficient
Linguistic Outcome	IEA Reading Test Population IVS	1.64
	OISE Test de Mots à Trouver, Niveau 7	-
	OISE Test de Compréhension Aurale, Niveau 7	1.43
Non-Linguistic Outcome	Opportunity to Use French	-
Motivation	Student Motivational Intensity	6.42**
	Student Desire to Learn French	10.95**
	Student Attitudes Towards Learning French	-
Self-Confidence With French	Student French Classroom Anxiety	4.34**
	Student French Use Anxiety	3.50**
	Student Self-Ratings in French	-
Attitudes	Student Attitudes Towards French-Canadians	3.04**
	Student Future Orientation	7.74**
	Student Instrumental Orientation	5.06**

TABLE M.1 (continued)

Latent Construct	Measured Variable	Standardized Solution Coefficient
Attitudes (continued)	Student Ethnocentrism	7.65**
	Student Integrative Orientation	6.98**
	Student Interest in Foreign Languages	7.23**
	Student Perveived Parental Encouragement	-
Passive Parental Influence	Parental Desire to Learn French	10.96**
	Parental Interest in Foreign Languages	7.30**
	Parental Attitudes Towards French-Canadians	3.58**
	Parental Integrative Orientation	-
Active Parental Influence	Parental Ethnocentrism	3.64**
	Parental Instrumental Orientation	.47
	Parental Future Orientation	6.73**
	Parental Encouragement	3.39**
	Parental Motivational Intensity	-

* $p < .05$

** $p < .01$

TABLE M.2

t-Values of the LISREL IV Analysis of the Modification 1 Model

Structural Equation Model

	γ_1	γ_2	γ_3	γ_4	γ_5	γ_6
Equation 1	.00	.00	1.50	.00	.00	.00
Equation 2	.00	.00	3.39**	.00	.00	.00
Equation 3	.00	.00	.00	.00	7.75**	.00
Equation 4	.00	.00	.00	.00	.00	.00
Equation 5	.00	.00	.00	.00	.00	1.42
Equation 6	.00	.00	.00	.00	.00	.00
Equation 7	.00	.00	.00	.00	.00	10.11**

	γ_7	ξ_1	ξ_2	ξ_3
Equation 1	.00	.00	2.99**	.00
Equation 2	.00	.00	.00	.00
Equation 3	.00	.00	.00	.00
Equation 4	2.13*	.00	.00	.00
Equation 5	-1.35	.00	.00	.00
Equation 6	.00	.00	.00	-.03
Equation 7	.00	.00	.00	-2.17*

TABLE M.2 (continued)

Measurement Model

Latent Construct	Measured Variable	Standardized Solution Coefficient
Linguistic Outcome	IEA Reading Test Population IVS	1.64
	OISE Test de Mots à Trouver, Niveau 7	-
	OISE Test de Compréhension Aurale, Niveau 7	1.43
Non-Linguistic Outcome	Opportunity to Use French	-
Motivation	Student Motivational Intensity	6.39**
	Student Desire to Learn French	10.94**
	Student Attitudes Towards Learning French	-
Self-Confidence With French	Student French Classroom Anxiety	4.34**
	Student French Use Anxiety	3.50**
	Student Self-Ratings in French	-
Attitudes	Student Attitudes Towards French-Canadians	3.03**
	Student Future Orientation	7.73**
	Student Instrumental Orientation	5.07**

TABLE M.2 (continued)

Latent Construct	Measured Variable	Standardized Solution Coefficient
Attitudes (continued)	Student Ethnocentrism	7.65**
	Student Integrative Orientation	6.99**
	Student Interest in Foreign Languages	7.24**
	Student Perceived Parental Encouragement	-
Passive Parental Influence	Parental Desire to Learn French	10.96**
	Parental Interest in Foreign Languages	7.30**
	Parental Attitudes Towards French-Canadians	3.58**
	Parental Integrative Orientation	-
Active Parental Influence	Parental Ethnocentrism	3.64**
	Parental Instrumental Orientation	.47
	Parental Future Orientation	6.73**
	Parental Encouragement	3.39**
	Parental Motivational Intensity	-

* $p<.05$

** $p<.01$

TABLE M.3

t-Values of the LISREL IV Analysis of the Modification 2 Model

	Structural Equation Model					
	η_1	η_2	η_3	η_4	η_5	η_6
Equation 1	.00	.00	1.47	.00	.00	.00
Equation 2	.00	.00	3.39**	.00	.00	.00
Equation 3	.00	.00	.00	.00	8.19**	.00
Equation 4	.00	.00	.00	.00	.00	.00
Equation 5	.00	.00	.00	.00	.00	1.38
Equation 6	.00	.00	.00	.00	.00	.00
Equation 7	.00	.00	.00	.00	.00	10.07**

	η_7	ξ_1	ξ_2	ξ_3
Equation 1	.00	.00	3.02**	.00
Equation 2	.00	.00	.00	.00
Equation 3	.00	-2.85**	.00	.00
Equation 4	2.15*	.00	.00	.00
Equation 5	-1.32	.00	.00	.00
Equation 6	.00	.00	.00	-.04
Equation 7	.00	.00	.00	-2.14*

TABLE M.3 (continued)

Measurement Model

Latent Construct	Measured Variable	Standardized Solution Coefficient
Linguistic Outcome	IEA Reading Test Population IVS	1.63
	OISE Test de Mots à Trouver, Niveau 7	-
	OISE Test de Compréhension Aurale, Niveau 7	1.42
Non-Linguistic Outcome	Opportunity to Use French	-
Motivation	Student Motivational Intensity	6.76**
	Student Desire to Learn French	10.74**
	Student Attitudes Towards Learning French	-
Self-Confidence With French	Student French Classroom Anxiety	4.34**
	Student French Use Anxiety	3.50**
	Student Self-Ratings in French	-
Attitudes	Student Attitudes Towards French-Canadians	2.70**
	Student Future Orientation	7.89**
	Student Instrumental Orientation	5.44**

TABLE M.3 (continued)

Latent Construct	Measured Variable	Standardized Solution Coefficient
Attitudes (continued)	Student Ethnocentrism	7.85**
	Student Integrative Orientation	7.50**
	Student Interest in Foreign Languages	7.53**
	Student Perceived Parental Encouragement	-
Passive Parental Influence	Parental Desire to Learn French	10.98**
	Parental Interest in Foreign Languages	7.28**
	Parental Attitudes Towards French-Canadians	3.57**
	Parental Integrative Orientation	-
Active Parental Influence	Parental Ethnocentrism	3.64**
	Parental Instrumental Orientation	.45
	Parental Future Orientation	6.71**
	Parental Encouragement	3.37**
	Parental Motivational Intensity	-

* $p<.05$

** $p<.01$

TABLE M.4

t-Values of the LISREL IV Analysis of the Modification 3 Model

	Structural Equation Model					
	γ_1	γ_2	γ_3	γ_4	γ_5	γ_6
Equation 1	.00	.00	1.61	.00	.00	.00
Equation 2	.00	.00	3.74**	.00	.00	.00
Equation 3	.00	.00	.00	.00	8.71**	.00
Equation 4	.00	.00	.00	.00	.00	.00
Equation 5	.00	.00	.00	6.63**	.00	1.71
Equation 6	.00	.00	.00	.00	.00	.00
Equation 7	.00	.00	.00	.00	.00	10.46**

	γ_7	ξ_1	ξ_2	ξ_3
Equation 1	.00	.00	3.01	.00
Equation 2	.00	.00	.00	.00
Equation 3	.00	-3.21**	.00	.00
Equation 4	1.46	.00	.00	.00
Equation 5	-1.78	.00	.00	.00
Equation 6	.00	.00	.00	.01
Equation 7	.00	.00	.00	-1.98**

TABLE M.4 (continued)

Measurement Model

Latent Construct	Measured Variable	Standardized Solution Coefficient
Linguistic Outcome	IEA Reading Test Population IVS	1.65
	OISE Test de Mots à Trouver, Niveau 7	-
	OISE Test de Compréhension Aurale, Niveau 7	1.44
Non-Linguistic Outcome	Opportunity to Use French	-
Motivation	Student Motivational Intensity	7.20**
	Student Desire to Learn French	11.72**
	Student Attitudes Towards Learning French	-
Self-Confidence With French	Student French Classroom Anxiety	6.37**
	Student French Use Anxiety	4.80**
	Student Self-Ratings in French	-
Attitudes	Student Attitudes Towards French-Canadians	2.69**
	Student Future Orientation	8.30**
	Student Instrumental Orientation	6.01**

TABLE M.4 (continued)

Latent Construct	Measured Variable	Standardized Solution Coefficient
Attitudes (continued)	Student Ethnocentrism	8.27**
	Student Integrative Orientation	8.13**
	Student Interest in Foreign Languages	8.14**
	Student Perceived Parental Encouragement	-
Passive Parental Influence	Parental Desire to Learn French	10.79**
	Parental Interest in Foreign Languages	7.44**
	Parental Attitudes Towards French-Canadians	3.70**
	Parental Integrative Orientation	-
Active Parental Influence	Parental Ethnocentrism	3.67**
	Parental Instrumental Orientation	.58
	Parental Future Orientation	6.82**
	Parental Encouragement	3.56**
	Parental Motivational Intensity	-

* $p<.05$

** $p<.01$

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